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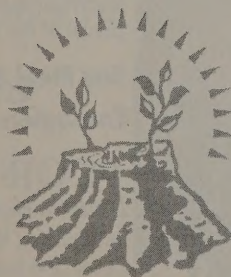
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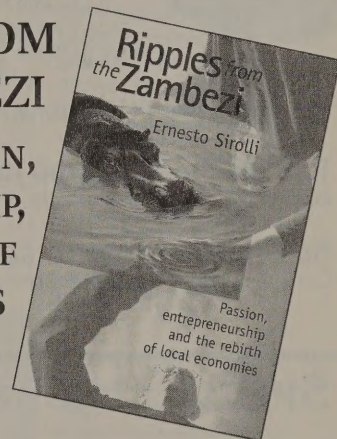
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# Whole Earth 97

Summer 1999



The Viridian Manifesto of  
January 3, 2000 Bruce Sterling 4

## SPECIAL: Cities

Heroic and happy developments in the cities. Mayors coming to grips with urban sprawl, attractive cities, and young and old folks. Architects designing humane living for the urban poor. Philanthropic gangs giving away clothes to school kids.

### Elegant Empathetic Affordable Housing Michael Pyatok 28

The master craftsman of affordable housing shares his thoughts on community outreach.

### Hydrogen Beer Bash at the Tike-Take Bar 36

#### City Lights

Lawrence Ferlinghetti 38  
An address by San Francisco's poet laureate.

### Midst the Handguns' Red Glare Sudhir Venkatesh 41

A Chicago housing project, even amidst gang wars, searches for community and a sense of home.

### Elegant Densities Mayor Jerry Brown 48

### To Save Salmon, Stop Juvenile Crime 50

Richard Conlin, Mayor Vera Katz, and Margie Matthews

### Book Brawl Patricia Holt 64

Can independent bookstores survive?

## SPECIAL: Human Rights

### Human Rights: the Globallocal Theater 14

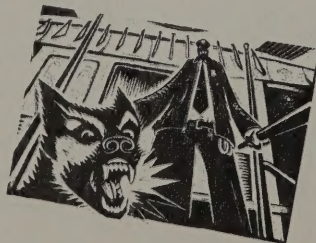
Morton Winston surveys seven ways to help encourage human rights, especially among corporations.

### John Doe vs. Unocal 17

Morton Winston

### Global Aspirations, Local Gospels 20

Blair Gibb  
Are Western values for human rights really universal?



### Alice Eve Kennington—Goodbye and Thanks 25

## SPECIAL: FARMS — GLOBALLOCAL SOY

Has anyone noticed? The globallocal food system is in turmoil. Gene-spliced edibles, farmers losing their shirts, pollution galore, price wars between nations, hogs and chickens in jailhouse farm factories. We go to America's Heartland, with its unheeded and misunderstood star, the soybean, and search for the empathic and sympathetic souls who care how we get fed.

### Farming on the Edge of Chaos Peter Warshall 72

### SOYBEAN OF HAPPINESS 75

Dan Imhoff and Peter Warshall  
A 3,000-year history of the single most pivotal crop in globallocal diets, the protein wars, and future industrial and health products.

### Leveraging the Heartland 80

### The Farmers' Watersheds 82

### QUILTED FARM FIELDS 84

Brian DeVore  
Farmers search for a future of crop diversity, hoping to find a way out of the monocrop trap.

### Soy in the Mississippi River Basin 91

### Soy Crushers & Commerce 93

### Hog Wars 94

Maurice Telleen



### AN OLD-STYLE BUTCHER ON THE KNIFE-EDGE Carl Quintanilla 97

Dewig Meats can teach us all about the "fair" profit, making money with kind hearts and reasonable judgment. Money and fairness are part and parcel of the future of sustainable food commerce.

### Soy Meal & Meat 100

### Consumers 103

### POOR MONSANTO 104

Donella H. Meadows

Demonizing Monsanto won't end industrial agriculture. But, less arrogance and more open discussion of gene-spliced-food safety would help a lot. Biotech ecological and health-emergency sirens are loud and clear.

### Biotech Hobbyist Magazine Jaron Lanier 111

## COEVOLUTION

### The Gorilla's Embrace 10

Barbara Smuts



BABOON AND BARBARA

#### BOOKS & RESOURCES

- American Bamboos 27
- American Bamboo Society 27
- The Lives of Animals 13
- New Oxford Book of Food Plants 26
- Totem Salmon 27

#### ACCESS

- USDA Web Photos 26

## HOMEPLATE

### "Breathing Walls" 56

Michael K. Stone

#### BOOKS & RESOURCES

- The Apple Grower 62
- Appropriate Building Materials 60
- Bulletin of Primitive Technology 61
- The Chair 57
- Drink as Much as You Want 37
- Earth Quarterly 61
- Encyclopedia of Country Living 63
- Escar-Go! 57
- The Future of Children 46
- Hemp Horizons 59
- Hemp Pages 59
- The Herbal Green Pages 59
- The Homebrewer's Garden 37
- HortIdeas 57
- Indigenous Medicinal Herbs 58
- In-Row Weeder/Hoe 57
- Juliette of the Herbs 58
- Maybe One 47
- Medicinal Herbs 59
- Oxo Good Grips 63
- PDR for Herbal Medicines 58
- Primitive Technology 61
- Sacred and Herbal Healing Beers 36

- Slide & Glide Wheelbarrow 62
- State of America's Children 46
- State of the World's Children 46
- Stone 60
- TurfTacs Staples 57

## ETERNITY

#### BOOKS & RESOURCES

- Crooked Cucumber 68
- The Names of Things 71
- Ploughing the Clouds 69
- The Road to Eleusis 69
- The Story of Libraries 71
- The Temple of Man 70



## CITIES

#### BOOKS & RESOURCES

- Chronicle of Community 40
- Concern Pest Control 56
- Kids to the Country 46

#### ACCESS

- Housing 35
- Independent Bookstores 67
- Livable Cities 55

## SOY, FARMS, BIOTECH, ETC

#### BOOKS & RESOURCES

- Against the Grain 110
- The Biotech Century 109
- The Complete Soy Cookbook 102
- Eat Not This Flesh 100
- The Ecological Risks of Engineered Crops 109

- A Guide to Raising Pigs 99
- Nature's Metropolis 90
- The New Soy Cookbook 102
- Plants from Test Tubes 110
- The Simple Soybean and Your Health 101
- The Whole Soy Cookbook 102

#### ACCESS

- Biotech 111
- Farmers & Soy 90
- Soy Health & Factory Animal 101

## HUMAN RIGHTS

#### BOOKS & RESOURCES

- Business Ethics 24
- The Ethical Imperative 25
- Profit Over People 24
- When Good Companies Do Bad Things 24

#### ACCESS

- Strategies for Human Rights 14
- UN Human-Rights Web Sites 25

## BACKMATTER

- Updates and News 112
- Gossip and Letters 114
- Thanks and Corrections 116
- Business 117



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# The Manifesto of January 3, 2000

by Bruce Sterling



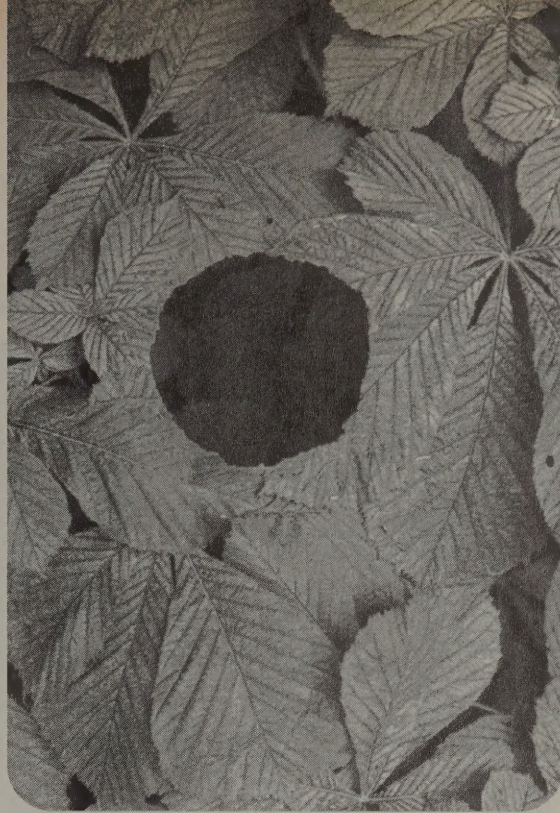
**A**rt movements have a problem, which is that moron critics name them. That's how you get stuck with a name like the "fauves." We've already got a name. We're Viridian Greens. The Viridian movement. That's because we're green, but there's something electrical and unnatural about our tinge of green.

The central issue as the new millennium dawns is technocultural. There are of course other, more traditional, better-developed issues for humankind. Cranky fundamentalism festers here and there; the left is out of ideas while the right is delusional; income disparities have become absurdly huge. These things are obvious to all. However, the human race has repeatedly proven that we can prosper cheerfully with ludicrous, corrupt, and demeaning forms of religion, politics, and commerce.

By stark contrast, no civilization can survive the physical destruction of its resource base. It is very clear that the material infrastructure of the twentieth century is not sustainable. The unprecedentedly severe and peculiar weather of the late 1990s makes it clear that this problem is growing acute. Society has simply been unable to summon the political or economic will to deal successfully with this problem by using twentieth-century methods. That is because CO<sub>2</sub> emission is a design and engineering problem; a cultural problem and a problem of artistic sensibility.

New and radical approaches are in order. These approaches should be originated, gathered, marshaled into an across-the-board cultural program, and publicly declared—on January 3. A group that can offer a coherent, thoughtful, and novel cultural manifesto on the target date of January 3, 2000 has a profound opportunity to affect the zeitgeist. (On January 1, everyone will be too hungover to read manifestos; on January 2, nobody's computers will work. So naturally the target date must be January 3.)

Civil society does not respond at all well to moralistic scolding. There are small minority groups here and there who are perfectly aware that it is immoral to harm the lives of coming generations by massive consumption now: deep Greens, Amish, people practicing voluntary simplicity, Gandhian ashrams, and so forth. These public-spirited voluntarists are not the problem. But



they're not the solution either, because most human beings won't volunteer to live like they do. Nor can people be forced to live that way through legal prescription, because those in command of society's energy resources will immediately game and neutralize any system of legal regulation.

However, contemporary civil society can be led anywhere that looks attractive, glamorous, and seductive.

The task at hand is therefore basically an act of social engineering. Society must become Green, and it must be a variety of Green that society will eagerly consume. What is required is not a natural Green, or a spiritual Green, or a primitivist Green, or a blood-and-soil romantic Green.

These flavors of Green have been tried, and have proven to have insufficient appeal. We can regret this failure if we like. But the past's well-meaning attempts were insufficient, and are now part of the legacy of a dying century. →

Top: *Horse Chestnut Leaves*, Andy Goldsworthy (1986).

Left: *Forest-piece at Aschnaitsee, Performance II*, Vera Lehndorff (1986).

## Viridian Manifesto Parameters

### THE MEDIA

- **TODAY:** publishing and broadcasting cartels surrounded by a haze of poorly financed subcultural microchannels
- **WHAT WE WANT:** more bandwidth for civil society; multicultural variety; and better-designed systems of popular many-to-many communication, in multiple languages through multiple channels

- **THE TREND:** a spy-heavy, commercial Internet. A Yankee entertainment complex that entirely obliterates many non-Anglophone cultures

### THE MILITARY

- **TODAY:** G-7 hegemony backed by the American military
- **WHAT WE WANT:** a wider and deeper majority hegemony with a military that can deter adventurism,

but specializes in meeting the immediate crises through civil engineering, public health, and disaster relief

- **THE TREND:** nuclear and biological proliferation among minor powers

### BUSINESS

- **TODAY:** currency traders rule banking system by fiat; extreme instability in markets; capital flight but no labor mobility; unsustainable energy base



*Knotted  
Stalks, Andy  
Goldsworthy  
(1986).*

The world needs a new, unnatural, seductive, mediated, glamorous Green. A Viridian Green, if you will.



**T**he best chance for progress is to convince the twenty-first century that the twentieth century's industrial base was crass, gauche, and filthy. This approach will work because it is based in the truth. The twentieth century lived in filth. It was much like the eighteenth century before the advent of germ theory, stricken by septic cankers whose origins were shrouded in superstition and miasma. The truth about our physical existence must be shown to people. It must be demonstrated repeatedly and everywhere.

So why is this an aesthetic issue? Because it's a severe breach of taste to bake and sweat half to death in your own trash, that's why. To boil and

roast the entire physical world, just so you can pursue your cheap addiction to carbon dioxide. What a cramp of our style. It's all very foul and aesthetically regrettable.

Unlike the modernist art movements of the twentieth century, a Viridian culture-industry movement cannot be concerned with challenging people's aesthetic preconceptions. We do not have the nineteenth-century luxury of shocking the bourgeoisie. That activity, enjoyable and time-honored though it is, will not get that poison out of our air. We are attempting to survive by causing the wealthy and the bourgeois to willingly live in a new way.

We cannot make them do it, but if we focused our efforts, we would have every prospect of luring them into it.

What is culturally required at the dawn of the new millennium is a genuine avant-garde, in the sense of a cultural elite with an advanced

- **WHAT WE WANT:** nonmaterial industries; vastly increased leisure; vastly increased labor mobility; sustainable energy and resources
- **THE TREND:** commodity totalitarianism; crony capitalism; criminalized banking systems; sweatshops

#### INDUSTRIAL DESIGN

- **TODAY:** very rapid model obsolescence; intense effort in packaging; CAD/CAM

- **WHAT WE WANT:** intensely glamorous, environmentally sound products; entirely new objects of entirely new materials; replacing material substance with information; a new relationship between the cybernetic and the material

- **THE TREND:** two design worlds for rich and poor consumers; a varnish on barbarism

#### GENDER ISSUES

- **TODAY:** more commercial work required of women; social problems exported into family life as invisible costs
- **WHAT WE WANT:** declining birth rates; declining birth defects; less work for anyone; lavish support for anyone willing to drop out of industry and consume less



sensibility not yet shared by most people, who are creating a new awareness requiring a new mode of life. The task of this avant-garde is to design a stable and sustainable physical economy in which the wealthy and powerful will prefer to live. We need a form of Green high fashion so appallingly seductive and glamorous that it can literally save people's lives. We have to gratify people's desires much better than the current system does. We have to reveal to people the many desires they have that the current system is not fulfilling. Rather than marshaling themselves for inhuman effort and grim sacrifice, people have to sink into our twenty-first century with a sigh of profound relief.

Environmental awareness is currently an annoying burden to the consumer, who must spend his and her time gazing at plastic recycling labels, washing the garbage, and so on. Better information environments can make the invisible visible, however, and this can lead to a swift re-evaluation of previously invisible public ills.

Energy meters, for instance, should be ubiquitous. They should be present, not in an obscure box outside the home, but enshrined within it. This is not a frugal, money-saving effort. It should be presented as a luxury. It should be a mark of class distinction. It should be considered a mark of stellar ignorance to be unaware of the source of one's electric power. Solar and wind power should be sold as premiums available to particularly affluent and savvy consumers. It should be considered the stigma of the crass proletariat to foul the air every time one turns on a light switch.

If one had a pair of computerized designer sunglasses that revealed the unspeakable swirl of airborne combustion products over the typical autobahn, it would be immediately obvious that clean air is a luxury. Infrasound, ultrasound, and sound-pollution monitors would make silence a luxury. Monitor taps with intelligent water analysis in real time would make pure water a luxury. Lack of mutagens in one's home would become a luxury.



**O**ur movement has no street credibility. We are not hip, underground, bohemian, or alternative in any way. If anyone asks you, tell them you are engaged in corporate futurism and product development. Trust me on this one. I have an exquisite understanding of how this system works, and at the end of the nineties, the real estate in the underground is priced out of sight. Forget about the underground; it's not worth it. Give it back to the young people and let them live there and breathe there and grow there.

We're not particularly interested in young people, or in recruiting young people to our cause. We think that young people have suffered enough, and will probably suffer a great deal more for things that they never did. They should not be required to be trendy any more; the overhead there is just too cruel. Young people should be left to enjoy their pirated MP3 music and their baggy cast-off clothing, and everyone over 30 should get the hell off their backs. →



*Sweet Chestnut, Andy Goldsworthy (1988).*

- **THE TREND:** more women in prison; fundamentalist and ethnic-separatist ideologies that target women specifically

**ENTERTAINMENT**

- **TODAY:** large-scale American special-effects spectacle supported by huge casts and multi-million dollar tie-in enterprises

- **WHAT WE WANT:** glamour and drama; avant-garde adventurism; a borderless culture industry bent on Green social engineering

- **THE TREND:** annihilation of serious culture except in a few non-Anglophone societies

**INTERNATIONAL JUSTICE**

- **TODAY:** dysfunctional but gamely persistent War Crimes tribunals
- **WHAT WE WANT:** Environmental Crimes tribunals
- **THE TREND:** justice for sale; intensified drug war

**EMPLOYMENT**

- **TODAY:** Mac Jobs, burn-out track; massive structural unemployment in Europe



*Hamatsa  
Emerging  
from the  
Woods,  
Koskimo,  
Edward S.  
Curtis (1915).*

We are an avant-garde that is specifically interested in OLD PEOPLE. If anyone should be galvanized with guilt over this issue, it's guys who have been driving big ugly cars and living in leaky mansions for sixty years. Well, your chickens have come home to roost now, Mr. Muscle Car, Mr. Little Deuce Coupe. This is your legacy to the grandkids. If you have a spark of decency, you should pitch in and help us. We've got plenty of stuff you can do without leaving the house or even getting out of your wheelchair. Besides, we're the first avant-garde that is living in a society where the median age is rising steadily. The target audience is old.

We believe in the *Culture Industry*. This means, by necessity, leisure. Large amounts of leisure are required to appreciate and consume cultural-industrial products such as movies, software, semi-functional streaming media, and so on. Time spent at more traditional forms of work unfairly lures away the consumers of the Culture Industry, and therefore poses a menace to our postindustrial economic underpinnings.

"Work" requires that people's attention be devoted to other, older, less attractive industries. "Leisure" means they are paying attention and money to us.

We therefore demand much more leisure for everyone. Leisure for the unemployed, while copious, is not the kind of "leisure" that increases our profits. We specifically demand intensive leisure for well-educated, well-heeled people. These are the people who are best able to appreciate and consume truly capital-intensive cultural products.



A real problem with traditional art movements is that they acquire their enemies at random. Mostly their enemies emerge from within their own ranks. Any avant-garde that lacks a designated hate and contempt figure immediately breaks up into warring schisms. Successful groups tend to define themselves by the people they can't stand.

My art movement comes pre-supplied with powerful, malignant, threatening enemies, the Global Climate Coalition. They are perfect villains. They have huge industrial backing, massive PR budgets, and headquarters in Washington; things that we don't have, and will never have, and that we deeply envy. Worse yet, they have a vested interest in obscuring and distorting the truth about climate findings.

We intend to find out all about the people of the GCC. We intend to make public fun of their moms and the way they dress. So our friends and

- **WHAT WE WANT:** less work with no stigma; radically expanded leisure; compulsory leisure for workaholics; guaranteed support for people consuming fewer resources; new forms of survival entirely outside the conventional economy

- **THE TREND:** increased class division; massive income disparity; surplus flesh and virtual class

#### **EDUCATION**

- **TODAY:** failing public-supported schools

- **WHAT WE WANT:** intellectual freedom; instant cheap access to information; better taste; a more advanced aesthetic; autonomous research collectives; lifelong education; and dignity and pleasure for the very large segment of the human population who are and will forever be basically illiterate and innumerate

- **THE TREND:** children as raw blobs of potential revenue-generating machinery; universities existing to supply middle-management

#### **PUBLIC HEALTH**

- **TODAY:** general success; worrying chronic trends in AIDS, tuberculosis, antibiotic resistance; massive mortality in nonindustrial world

- **WHAT WE WANT:** unprecedentedly healthy old people; plagues exterminated worldwide; sophisticated treatment of microbes; artificial food

fellow travelers needn't worry about sharing every jot and tittle of our arcane aesthetic doctrines. If you're on the Web and willing to do some oppo research against the GCC, you'll always receive a hearty welcome from us.

We also love cops and soldiers. Cops and soldiers are the armed wing of our movement. One problem with traditional cultural movements is that they have way too much culture and not enough people with revolvers. We have a special fondness for environmental-crimes units, anti-poacher units, post-disaster National Guard units, emergency civil engineers, the Red Cross, and so forth. As for terrorism and vigilante action, we just find this absurd. These people aren't serious players; they have no idea how to seize and hold power.

One gets tired of watching cultural movements act as if they were engaged in something daringly criminal and semi-licit. The GCC is the group that is truly engaged in something daring, criminal, and semi-licit. They should live in dire fear of arrest and prosecution. So we don't engage in any of this net-radical hacking or monkeywrenching nonsense. We're far more interested in things like on-site inspections and legal indictments.

If several million people starve to death because, for instance, repeated El Niño events have disrupted major global harvests for years on end, then there will be a catastrophe. There will be enormous political and military pressures for justice and an accounting.

We surmise that the best solution in this scenario would be something like the Czech lustration and the South African Truth and Reconciliation Commission. The groundwork for this process should begin now. With the Czech lustration and the TRC, the late twentieth century has given us a mechanism by which societies that have drifted into dysfunctional madness can be put right. We expect no less for future malefactors whose sly defense of an indefensible status quo may lead to the deaths of millions of people who

derived little benefit from their actions and were never given any voice in their decisions. We recommend that dossiers be compiled now, for the sake of future international courts of justice. We think this work should be done quite openly, in a spirit of civic duty. Those who are risking the lives of others should be made aware that this is one particular risk that will be focused specifically and personally on them.

While it is politically helpful to have a polarized and personalized enemy class, there is nothing particularly new about this political tactic. Revanchist sentiment is all very well, but survival will require a much larger vision. This must become the work of many people in many fields of labor, ignoring traditional boundaries of discipline and ideology to unite in a single practical goal: redesigning the global climate. ❧

Bruce is a science fiction and techno writer, with pieces in *Boing Boing*, the *NY Times* and, of course, *WER* among others (*Omni*, *WIRED*). I first met him inside Bisosphere 2 with an entourage of young men completely adorned in black. He's loved by cyber-punkers. His latest sci-fi novel,

*Distraction*, was given endless viridian gold stars by SF guru John Clute in our last issue, and many benedictions by Stewart Brand. The complete Viridian Manifesto, with lots of thoughtful additions, is on [www.well.com/conf/mirrorshades/viridian.html](http://www.well.com/conf/mirrorshades/viridian.html).  
—PW



*Sycamore*,  
Andy  
Goldsworthy  
(1989).

• **THE TREND:** massive dieback in Third World; septic poor quarantined from nervous rich in G-7 countries; return of nineteenth-century sepsis; world's fattest and most substance-dependent populations

#### SCIENCE

• **TODAY:** basic science sacrificed for immediate commercial gain; malaise in academe; bureaucratic overhead in government support

• **WHAT WE WANT:** procedural rigor, intellectual honesty, reproducible results; peer review, block grants, massively increased research funding, massively reduced procedural overhead; genius grants; single-author papers; abandonment of passive construction and the third person plural; "Science" reformed so as to lose its Platonic and crypto-Christian elements as the "pure" pursuit of disembodied male minds; armistice in Science Wars

• **THE TREND:** "Big Science" dwindles into short-term industrial research or military applications; "scientists" as a class forced to share imperiled, marginal condition of English professors and French deconstructionists

BARB SMUTS/ANTHROPHOTO

## The



Barbara with adult male baboon.

For the heart to truly share another's being, it must be an embodied heart, prepared to encounter directly the embodied heart of another. I have met the "other" in this way, not once or a few times in my life, but over and over during years spent in the company of "persons" like you and me, who happen to be nonhuman.

These nonhuman persons included gorillas at home in the perpetually wet, foggy mountaintops of central Africa, chimpanzees carousing in the hot, rugged hills of western Tanzania, baboons lazily strolling across the golden grass plains of highland Kenya, and dolphins gliding languorously through the green, clear waters of Shark Bay. In each case, I was lucky to be accepted by the animals as a mildly interesting, harmless companion, permitted to travel amongst them, eligible to be touched by hands and fins—although I refrained, most of the time, from touching in turn.

I mingled with these animals under the guise of scientific research, and, indeed, most of my activities while "in the field" were designed to gain objective, replicable information about the animals' lives. Doing good

science, it turned out, consisted mostly of spending every possible moment with the animals,

watching them with the utmost concentration, and documenting myriad aspects of their behavior. In this way, I learned much that I could confidently report as scientific findings. But while one component of my being was engaged in rational inquiry, another part of me, by necessity, was absorbed in the physical challenge of functioning in an unfamiliar landscape devoid of other humans or any human-created objects save what I carried on my back. When I first began working with baboons, my main problem was learning to keep up with them while remaining alert to poisonous snakes, irascible buffalo, aggressive bees, and leg-breaking pig holes. Fortunately, these challenges eased over time, mainly because I was traveling in the company of expert guides—baboons who could spot a predator a mile away and seemed to possess a sixth sense for the proximity of snakes. Abandoning myself to their far superior knowledge, I moved as a humble disciple, learning from masters about being an African anthropoid.

Thus I became (or, rather, regained my ancestral right to be) an animal, moving instinctively through a world that felt (because it was) like my ancient home. Having begun to master this challenge, I faced another one equally daunting: to comprehend and behave according to a system of baboon etiquette bizarre and subtle enough to

# Gorilla's Embrace

BY BARBARA SMUTS

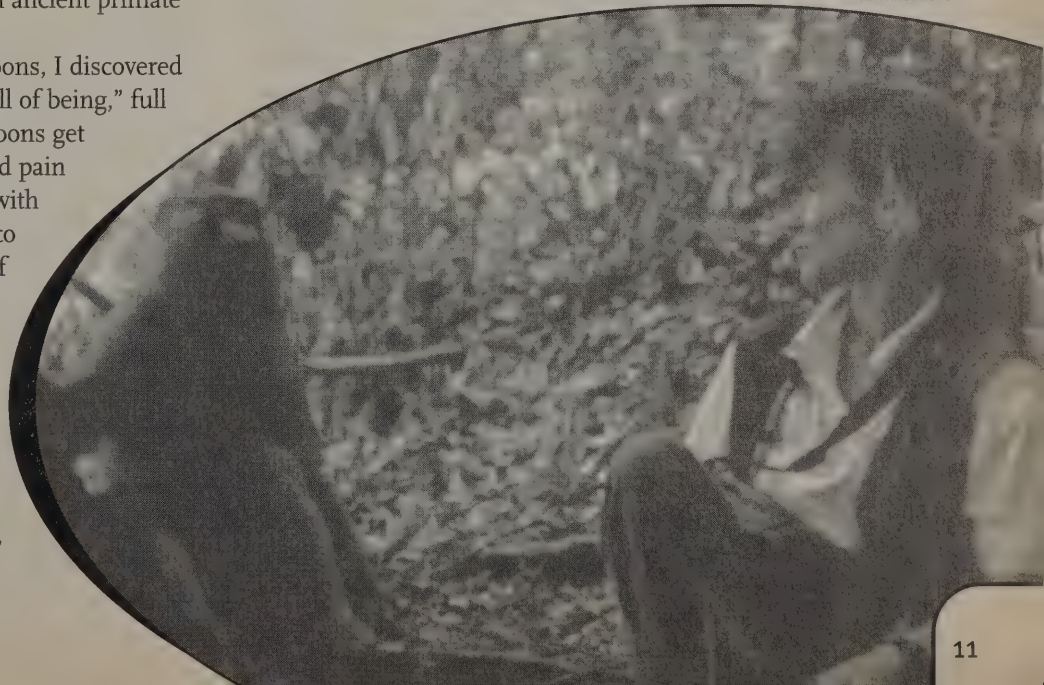
stop Emily Post in her tracks. This task was forced on me by the fact that the baboons stubbornly resisted my feeble but sincere attempts to convince them that I was nothing more than a detached observer, a neutral object they could ignore. Right from the start, they knew better, insisting that I was, like them, a social subject vulnerable to the demands and rewards of relationship. Since I was in their world, they determined the rules of the game, and I was thus compelled to explore the unknown terrain of human-baboon intersubjectivity. Through trial and embarrassing error, I gradually mastered at least the rudiments of baboon propriety. I learned much through observation, but the deepest lessons came when I found myself sharing the being of a baboon because other baboons were treating me like one. Thus I learned from personal experience that if I turned my face away but held my ground, a charging male with canines bared in threat would stop short of attack. I became familiar with the invisible line defining the personal space of each troop member, and then I discovered that the space expands and contracts depending on the circumstances. I developed the knack of sweetly but firmly turning my back on the playful advances of juveniles, conveying, as did the older females, that although I found them appealing, I had more important things to do. After many months of immersion in their society I stopped thinking so much about what to do and instead simply surrendered to instinct, not as mindless, reflexive action, but rather as action rooted in an ancient primate legacy of embodied knowledge.

Living in this way with baboons, I discovered that to be an animal is to be "full of being," full of "joy." Like the rest of us, baboons get grouchy, go hungry, feel fear and pain and loss. But during my times with them, the default state seemed to be a lighthearted appreciation of being a baboon body in baboon-land. Adolescent females concluded formal, grown-up-style greetings with somber adult males with a somersault flourish. Distinguished old ladies, unable to get a male's attention,

stood on their heads and gazed up at the guy upside down. Grizzled males approached balls of wrestling infants and tickled them. Juveniles spent hours perfecting the technique of swinging from a vine to land precisely on the top of mom's head. And the voiceless, breathy chuckles of baboon play echoed through the forest from dawn to dusk.

During the cool, early morning hours, the baboons would work hard to fill their stomachs, but as the temperature rose, they became prone to taking long breaks in especially attractive locales. In a mossy glade or along the white-sanded beach of an inland lake, they would shamelessly indulge a passion for lying around in the shade on their backs with their feet in the air. Every now and then someone would concur about the agreeableness of the present situation by participating in a chorus of soft grunts that rippled through the troop like a gentle wave. In the early days of my fieldwork, when I was still preoccupied with doing things right, I regarded these siestas as valuable opportunities to gather data on who rested near whom. But later, I began to lie around with them. Later still, I would sometimes lie around without them—that is, among them, but while they were still busy eating. Once I fell asleep surrounded by 100 munching baboons only to awaken half an hour later, alone except for an adolescent male who had chosen to nap by my side (presumably inferring from my deep sleep that I'd found a particularly good resting spot). We blinked at one another in the

BARB SMUTS/  
ANTHROPHOTO





BARB SMUTS/  
ANTHROPHOTO

Barbara displaying her teeth to the camera-man, not baboons. A facial expression of joy.

light of the noonday sun and then casually sauntered several miles back to the rest of the troop, with him leading the way.

There were 140 baboons in the troop, and I came to know every one as a highly distinctive individual. Each one had a particular gait, which allowed me to know who was whom, even from great distances when I couldn't see anyone's face. Every baboon had a characteristic voice and unique things to say with it; each had a face like no other, favorite foods, favorite friends, favorite bad habits. Dido, when chased by an unwelcome suitor, would dash behind some cover and then dive into a pig hole, carefully peeking out every few moments to see if the male had given up the chase. Lysistrata liked to sneak up on an infant riding on its mother's back, knock it off (gently), and then pretend to be deeply preoccupied with eating some grass when mom turned to see the cause of her infant's distress. Apié, the alpha male, would carefully study the local fishermen from a great distance, wait for just the right moment to rush toward them, take a flying leap over their heads to land on the fish-drying rack, grab the largest fish, and disappear into the forest before anyone knew what was happening.

I also learned about baboon individuality directly, since each one approached his or her relationship with me in a slightly different way. Cicero, the outcast juvenile, often followed me and sat quietly a few feet away, seemingly deriving some small comfort from my proximity. Leda, the easygoing female, would walk so close to me I could feel her fur against my bare legs. Dakar, feisty adolescent

male, would catch my eye and then march over to me, stand directly in front of me, and grab my kneecap while staring at my face intently (thanks to Dakar, I've become rather good at appearing calm when my heart is pounding). Clearly, the baboons also knew me as an individual. This knowledge was lasting, as I learned when I paid an unexpected visit to one of my study troops seven years after last being with them. They had been unstudied during the previous five years, so the adults had no recent experience with people coming close to them, and the youngsters had no such experience at all. I was traveling with a fellow scientist whom the baboons had never met, and, as we approached on foot from a distance, I anticipated considerable wariness toward both of us. When we got to within about one hundred yards, all of the youngsters fled, but the adults merely glanced at us and continued foraging. I asked my companion to remain where he was, and slowly I moved closer, expecting the remaining baboons to move away at any moment. To my utter amazement, they ignored me, except for an occasional glance, until I found myself walking among them exactly as I had done many years before. To make sure they were comfortable with me, as opposed to white people in general, I asked my friend to come closer. Immediately, the baboons moved away. It was me they recognized, and after a seven-year interval they clearly trusted me as much as they had on the day I left.

Trust, while an important component of a friendship, does not, in and of itself, define it. Friendship requires some degree of mutuality, some give-and-take. Because it was important, scientifically, for me to minimize my interactions with the baboons, I had few opportunities to explore the possibilities of such give-and-take with them. But occasional events hinted that such relations might be possible, were I encountering the baboons first and foremost as fellow social beings, rather than as subjects of scientific inquiry. For example, one day, as I rested my hand on a large rock, I suddenly felt the gentlest of touches on my fingertips. Turning around slowly, I came face-to-face with one of my favorite juveniles, a slight fellow named Damien. He looked intently into my

eyes, as if to make sure that I was not disturbed by his touch, and then he proceeded to use his index finger to examine, in great detail, each one of my fingernails in turn. This exploration was made especially poignant by the fact that Damien was examining my fingers with one that looked very much the same, except that his was smaller and black. After touching each nail, and without removing his finger, Damien glanced up at me for a few seconds. Each time our gaze met, I wondered if he, like me, was contemplating the implication of the realization that our fingers and fingernails were so alike.

I experienced an even greater sense of intimacy when, in 1978, I had the exceptional privilege of spending a week with Dian Fossey and the mountain gorillas she had been studying for many years. One day, I was out with one of her groups, along with a male colleague unfamiliar to the gorillas and a young male researcher whom they knew well. Digit, one of the young adult males, was strutting about and beating his chest in an early challenge to the leading silverback male. My two male companions were fascinated by this tension, but after a while I had had enough of the macho energy, and I wandered off. About thirty meters away, I came upon a "nursery" group of mothers and infants who had perhaps moved off for the same reasons I had. I sat near them and watched the mothers eating and the babies playing for timeless, peaceful moments. Then my eyes met the warm gaze of an adolescent female, Pandora. I continued to look at her, silently sending friendliness her way. Unexpectedly, she stood and moved closer. Stopping right in front of me, with her face at eye level, she leaned forward and pushed her large, flat, wrinkled nose against mine. I know that she was right up against me, because I distinctly remember how her warm, sweet breath fogged up my glasses, blinding me. I felt no fear and continued to focus on the enormous affection and respect I felt for her. Perhaps she sensed my attitude, because in the next moment I felt her impossibly long ape arms wrap around me, and for precious seconds, she held me in her embrace. Then she released me, gazed once more into my eyes, and returned to munching on leaves.

After returning from Africa, I was very lonely for nonhuman company. This yearning was greatly eased by my dog Safi. Safi and I are equals. This does not mean we are the same; we are, in fact, very different, she with the blood of wolves, me with the blood of apes. It does mean I regard her as a "person." Relating to other beings as "persons" has nothing to do with whether or not we

attribute human characteristics to them. It has to do with recognizing that they are social creatures like us whose idiosyncratic, subjective experience of us plays the same role as our subjective experience of them. When Safi or the baboons relate to us as individuals, and when we relate to them as individuals, it is possible for both to have a personal relationship. If a human being relates to a nonhuman being as an anonymous object, rather than as a being with its own subjectivity, it is the human, and not the other animal, who relinquishes personhood.

The limitations most of us encounter with other animals reflect not their shortcomings, as we too often assume, but our own narrow views. Treating members of other species as persons, as beings with potential far beyond our normal expectations, will bring out the best in them. Each animal's best includes unforeseeable gifts. ❀

About thirty years ago, I was a mad graduate student teaching primate behavior. One of the few students I cherished was Barbara Smuts. I heard of her occasionally (once in *Time* magazine, when a group of monkey lovers was held hostage by Ugandan guerillas), and we finally met again in Marin. She's remained as analytic and *sympatico* as ever. She's now a professor at the University of Michigan, editor of *Primate Societies*, and author of *Sex and Friendship in Baboons* (Aldine de Gruyter, 1985). —PW



### THE LIVES OF ANIMALS

J.M. Coetzee et al. 1999; 127 pp. \$19.95. Princeton University Press.

Barbara Smuts's essay appears in a longer form in *The Lives of Animals*, as a response to South African writer J.M. Coetzee's 1997-98 Tanner Lectures at Princeton. Coetzee presents his two lectures as a novella

about a writer offering two prestigious academic lectures. His protagonist shocks her audience by departing from the academic/lit-crit form to blast her fellow academicians for their complicity in the routine abuse of animals by humans. From there the story twists, weaves, and turns back on itself to consider animal/human relationships, the role of literature, and the difficulties of any individual's understanding or empathizing with another (human or nonhuman).

Responses follow from four stellar commentators: Marjorie Garber, Professor of English at Harvard; Wendy Doniger, Professor of the History of Religions at the University of Chicago; animal-rights pioneer (and recently appointed Princeton Professor of Bioethics) Peter Singer; and Barbara Smuts. Coetzee's genre-breaking frees the respondents to loosen their scholarly language and draw readers into the debate. Peter Singer, for example, offers a fictionalized dialogue of his own. And Barbara Smuts, finally, raises her hand to say, "Excuse me, but could we maybe look at what we learn from real-life relations with animals?" —MKS

HUMAN RIGHTS:

# CORPORATE MORALS IN THE GLOBALLOCAL THEATER

by Morton Winston, Ph.D.

Until recently, corporations have claimed innocence of and distanced themselves from human-rights violations. After all, corporations do not and cannot arrest and imprison people for their religious and political beliefs; or pass and enforce repressive security laws; or take and torture prisoners, disenfranchise people from voting on account of their race or gender, execute citizens, or engage in genocide and ethnic cleansing. Only governments with a monopoly on the "legitimate" use of violence can do these things—generally with impunity. Labor unions have never quite believed in corporate innocence, but their own violence, and moral and organizational failings, have (especially in the US) weakened their credibility. Even human-rights organizations—children of the Holocaust—have preferred helping individuals rather than groups of citizens mired in the complex "exotic" nations. Shell in Nigeria, Unocal and TOTAL in Burma, and dozens of corporations in China, have awakened global and local nongovernmental organizations (NGOs) to the links between business and human rights. Awareness is the first step. Here, Dr. Winston lays out the spectrum of strategies employed by NGOs caught up in the globallocal crises of moral authority and power as they search for skillful means and effective, compassionate action. —PW

While many human-rights NGOs now desire that businesses correct their human-rights violations, they disagree on how to address the businesses. They differ in what they want them to do, as well as in the tactics they use to persuade them. Some in the human-rights movement see transnational corporations as potential allies and useful levers that can influence repressive governments engaged in human-rights violations. Others believe transnational corporations act in complicity with repressive governments and are themselves responsible for some kinds of human-rights violations. Activists in this camp advocate "shaming" or coercing transnational corporations into severing such complicit or supportive relationships with repressive regimes.

Still another school within the human-rights movement now talks about companies attending to the "triple bottom line": not only the financial account, but also the social and environmental accounts. These NGOs try to make businesses morally accountable to their "stakeholders," as well as financially accountable to their owners and shareholders.

**What Works?**

NGOs differ dramatically not only in their goals regarding business accountability, but in their styles and tactics in approaching

## Whole Earth's Access to Strategies for Human Rights

Corporations can no longer cry: "It's just business!" But how do citizens help them shape up? Dr. Winston painstakingly pointed us to several organizations employing the seven approaches described in his article. Decide where you fit, what moves you, whom you want to work with...and call.

## SOCIAL RESPONSIBILITY

**AMNESTY INTERNATIONAL USA Business and Economic Relations Group**  
600 Pennsylvania Avenue, Washington, DC 20003.  
202/544-0200,  
gamatang@aiusa.org,  
www.amnesty-usa.org.

AIUSA "talks" to companies using "Amnesty International's Human Rights Principles for Businesses," a checklist of human-rights concerns it feels companies

should incorporate into their business practices. Contacts are coordinated internationally.

**HUMAN RIGHTS WATCH**  
350 Fifth Avenue, 34th Floor, New York, NY 10118.  
212/290-4700,  
aganesan@hrw.org,  
www.hrw.org.

The eye on the world of human-rights violations. This veteran organization investigates and exposes abuses across the globe.

**BUREAU OF DEMOCRACY, HUMAN RIGHTS AND LABOR**

US Department of State, Washington, DC 20520.  
202/647-4000,  
www.state.gov/www/global/human\_rights/business\_principles.html.

One of the four bureaus of the Office of the Under Secretary for Global Affairs, DRL promotes democracy worldwide, formulates US human-rights policies, and coordinates policy in human rights-related labor issues. Promulgates the voluntary Model Business Principles issued by the White House





corporations. Tactics range from cooperative and collegial to contentious and confrontational. Here are seven core approaches used by human rights groups:

1. Emphasize *SOCIAL RESPONSIBILITY*.

Try rational persuasion and moral argument with corporate managers. Get them to agree to institute human-rights principles in their company's code of conduct, and to voluntarily implement and monitor their own compliance. This assumes that many corporate managers are ethical persons who are trying to "do the right thing," and so will respond to ethical arguments.

2. Emphasize *SOCIAL ACCOUNTABILITY*.

This approach assumes that some corporations might choose to adopt ethical guidelines and do the right thing, but they cannot be trusted to monitor their own compliance with voluntarily adopted ethical principles. They need to be audited on a regular basis by an independently accredited agency. This view is favored by groups such as the Council on Economic Priorities, which has developed what it claims to be the first fully auditable social-accountability standard for businesses ("SA8000").

Both the social responsibility approach and the social accountability approach rely on companies voluntarily choosing to adopt ethical guidelines. They regard corporate managers as potential allies in the global struggle for human rights, and seek to enlist their aid to that end.

3. Emphasize *SHAREHOLDER ACTIVISM*.

Influence corporate policy by means of shareholder resolutions. Socially responsible investment companies such as Trillium Asset Management (formerly Franklin Research & Development), Calvert, Domini, and others already use shareholder



ERIC DROOKER

resolutions in an effort to make themselves and the businesses in which they invest more socially accountable. This technique has been used for more than twenty-five years by the Interfaith Center for Corporate Responsibility, which represents faith-based pension funds in shareholder actions. This is a more adversarial position than the social responsibility and social accountability strategies, yet still seeks to enlist corporate cooperation in pursuing human-rights goals.

4. Emphasize *ECONOMIC PRESSURE*.

This technique assumes that corporations will not eagerly volunteer for internal institution of social responsibilities—and will only do so if they fear consequences that might hurt profits on investment for their owners. The only successful tactics to change corporate behavior are those that credibly threaten companies with loss of income. Company boycotts have been used extensively by labor unions and some NGOs, but not, for example, by Amnesty International or Human Rights Watch.

and Department of Commerce in 1996. These principles, from provision of a safe and healthy workplace to good corporate citizenship, are benchmarks for US businesses.

**BUSINESS FOR SOCIAL RESPONSIBILITY**

609 Mission Street, San Francisco, CA 94105. 800/277-2824, 415/537-0890, rrichman@bsr.org, www.bsr.org.

A member of the Apparel Industry Partnership (see below), this organization's

member businesses and corporations promote social and environmental responsibility within the business community.

**COUNCIL FOR ETHICS IN ECONOMICS**

125 East Broad Street, Columbus, OH 43215. 614/221-8661, www.businessethics.org.

CEE, whose membership includes business, academic, and professional leaders, strives to identify and shape ethical business conduct through international forums,

an environmental task force, and independent consulting.

**SOCIAL ACCOUNTABILITY**

**COUNCIL ON ECONOMIC PRIORITIES**

**ACCREDITATION AGENCY**  
30 Irving Place, New York, NY 10003. 212/358-7697, info@cepaa.org, www.cepaa.org.

CEPAA has developed what it claims to be the first fully auditable standard for business social responsibility: "SA8000." It seeks to have corporations agree to

undertake audits, conducted by independent agencies accredited by CEPAA and governed by this standard, of the suppliers with whom they do business.

**GLOBAL EXCHANGE**

2077 Mission Street, Room 303, San Francisco, CA 94110. 800/497-1994, 415/255-7296, info@globalexchange.org, www.globalexchange.org.

This nonprofit research, education, and action center promotes people-to-people ties with grassroots exchange projects. GX manages a global corporate

accountability program, conducts "reality" tours to under-served societies, and promotes fair trade with developing countries.

**APPAREL INDUSTRY PARTNERSHIP**

Bureau of International Labor Affairs, Department of Labor, 200 Constitution Avenue NW, Washington, DC 20210. 202/219-6666, www.dol.gov/dol/esa/public/nosweat/partnership/report.htm.

This coalition of businesses, NGOs, and government officials has negotiated a fair-labor-practices standard

5. Emphasize **SANCTIONS/DISINVESTMENT.**

This tactic is even more adversarial. Its adherents hold that nongovernmental organizations can affect corporate policies and the policies of repressive governments by calling for the imposition of sanctions—for instance, in the form of government-mandated selective-purchasing laws—or disinvestment campaigns against companies that continue to do business that benefits such regimes. Here the strategy is to use government investment regulations on, or to actively withdraw investment from, offending companies, to control corporate behavior. It is allied philosophically with the economic pressure strategy, since it assumes that most companies will not change their behavior unless it is clearly in their economic interest to do so. The NGOs that use this approach try to make it unprofitable for companies to continue to behave in ways that conflict with human-rights agendas.

6. Emphasize **GOVERNMENT REGULATION.**

This approach is based on the belief that only national governments have sufficient power and authority to force companies to adopt ethical practices that protect human rights and the environment. Groups espousing this view tend to focus on enacting national or subnational legislation (unilateral sanctions, new-investment bans, or selective-purchasing laws). These efforts are hampered by multilateral trade and investment agreements such as NAFTA, GATT, and MAI, which make it difficult or impossible to enact appropriate kinds of laws at the national level. Such agreements are coming under increasing scrutiny by human-rights advocates.



ERIC DROOKER

7. Emphasize **LEGAL ACTION.**

Use the courtroom against the boardroom. Use the courts to sue transnational corporations, to get them to change their behavior, or to hold them accountable for human-rights violations committed by their business partners. ❀

Teacher, philosopher, activist, Morton Winston has taught courses on human rights and democracy in South Africa (1992) and at the College of New Jersey (since 1979). He will teach at Mahidol University in Bangkok this year. He's been part of Amnesty International for twenty years, from chair of the

group that managed anti-apartheid actions to chair of AI's board. This article is excerpted from a paper delivered at the University of Antwerp Conference on Companies and Human Rights (1998), and can be found in an expanded form on the Corporate Watch Web site, at [www.corpwatch.org](http://www.corpwatch.org).

for the apparel industry—not without controversy over the integrity of its language and the effectiveness of its coverage.

**LAWYERS COMMITTEE FOR HUMAN RIGHTS**

333 Seventh Avenue, 13th Floor, New York, NY 10001.  
212/629-6170,  
[lchrbin@lchr.org](mailto:lchrbin@lchr.org),  
[www.lchr.org](http://www.lchr.org).

A participant in the Apparel Industry Partnership, LCHR negotiated the fair-labor-practices agreement with representatives of the apparel

industry and officials from the US Department of Labor.

**INTERNATIONAL LABOR RIGHTS FUND**

733 15th Street NW, Suite 920, Washington, DC 20005.  
202/347-4100,  
[laborrightrights@igc.org](mailto:laborrightrights@igc.org).

A member of the Apparel Industry Partnership and the Child Labor Coalition, and co-chair of Rugmark Foundation-USA, ILRF seeks to establish enforceable standards for international businesses dealing with child labor and other labor rights.

**TRANSPARENCY INTERNATIONAL—USA**

1615 L Street NW, Suite 700, Washington, DC 20036.  
202/682-7048,  
[tiusa@aol.com](mailto:tiusa@aol.com),  
[www.transparency-usa.org](http://www.transparency-usa.org).

Transparency International was established to take on corruption in international business transactions. A nonprofit NGO, TI calls for increased government accountability, encouraging international and national coalitions to establish effective legislation and anti-corruption policies.

**SHAREHOLDER ACTIVISM**

(See also *Whole Earth* No. 92: "Soul & Money," including "Shareholder Activism," page 84; "Banking on Natural Capital," page 90; and shareholder activism resources, page 86.)

**INTERFAITH CENTER ON CORPORATE RESPONSIBILITY**

475 Riverside Drive, Suite 550, New York, NY 10115.  
212/870-2295,  
[info@iccr.org](mailto:info@iccr.org),  
[www.domini.com/iccr.html](http://www.domini.com/iccr.html).

This oldest and best-known NGO galvanizing shareholder activism is a coalition of 275 mainly faith-based institutions whose combined investment portfolios are worth an estimated \$90 billion. Each year ICCR initiates or co-sponsors shareholder resolutions for US corporations, dealing with global codes of conduct, sustainable living wages, environmental concerns, contract-supplier demands, and human-rights issues—and backs them up with its own business-conduct standard: "Principles for Global Corporate Responsibility: Benchmarks for

# JOHN DOE VS. UNOCAL

THE BOARDROOM/COURTROOM BATTLES FOR ETHICAL TURF

by Morton Winston, Ph.D.

In September 1996, lawyers representing several Burmese citizens known under the pseudonym "John Doe"—as well as two human-rights advocate organizations—filed a lawsuit in US District Court in Los Angeles, accusing Unocal Corporation of human-rights violations in Burma. The charge was that Unocal's participation in the \$1.2-billion Yadana gas pipeline project through Burma to Thailand has involved slave labor, the forced relocation of entire villages, and, in some cases, torture, rape, and murder by Burmese soldiers of people in the Tenasserim region of the country.

The goal of this suit was to stop the Yadana pipeline—a joint venture of Unocal, TOTAL, and the Burmese state-run energy company. Plaintiffs sought compensation for those who had allegedly lost their homes or their livelihood.

Yadana (the Burmese word for treasure) might have been a boon to the people of the region if they were not under the thumb of the repressive Burmese military government, the State Law and Order Restoration Council (SLORC), which illegally seized power in 1988<sup>1</sup>. As it is, the project will only benefit the current government and the foreign oil companies, while leaving the Burmese people in misery and their democratically elected president, Daw Aung San Suu Kyi,

under repressive detention. [Ms. Suu Kyi's house arrest was officially lifted in 1995, but her movements and means of communication are still rigidly constrained.]

The outcome of the pipeline cases could have tremendous implications for US firms, particularly those doing business in countries where authoritarian governments control the economy and natural resources. These cases represent an attempt to hold transnational corporations accountable for the human-rights violations perpetrated by their joint-venture partners. Such lawsuits represent a nexus of two strategies of international social pressure. One is to target undemocratic regimes by leaning on specific multinational companies. The other is to use American courts to hold those multinational firms responsible for actions overseas. If they are successful, suits of this kind represent a way of denying valuable foreign-exchange income to authoritarian regimes while at the same time forcing transnational corporations to accept responsibility for the human-rights conditions of the countries in which they invest.

This litigious approach complements other strategies being employed by the Free Burma Coalition in the US—actions such as selective-purchasing laws passed in Massachusetts, San Francisco, Oakland, and Santa

Monica, and shareholder resolutions filed against PepsiCo, London Fog, Oshkosh B'Gosh, and Columbia Sportswear Company, all of whom subsequently pulled out of Burma in 1996, following the leads of Eddie Bauer and Macy's. But it is relatively easy for apparel manufacturers to relocate their production facilities to another low-wage (Asian) country. Oil and energy companies such as Unocal have a much harder time relocating; as the senior corporate counsel for Mobil once told me, "We have to go after the oil where God put it."

Unocal, which owns a 28-percent share in the Yadana pipeline project, has enormous sunk costs which it cannot hope to recoup until the pipeline is in production. It is estimated that the Yadana pipeline will generate as much as \$200 million a year in revenue once completed. Unocal is not about to "cut and run" because a few human rights activists are upset about the human-rights policies of the SLORC.

What does worry companies like Unocal, though, are government-imposed sanctions that would make it illegal to invest in countries like Burma. In early February 1997, Unocal signed a deal with the Burmese government to expand its company's rights to explore and develop gas fields off the coast. This new agreement was announced the same day that the US

<sup>1</sup> In November 1997, the SLORC renamed itself the State Peace and Development Council (SPDC), though its military character and repressive policies are essentially unchanged. The regime still refuses to transfer power to the legitimate, elected government and remains a non-democratic military dictatorship.

Measuring Business Performance." Originally a member of the Apparel Industry Partnership, ICCR dropped out over the issue of living-wage standards in developing countries.

## SOCIAL INVESTMENT FORUM

1612 K Street NW, Washington, DC 20006. 202/872-5319, info@socialinvest.org, www.socialinvest.org.

Invest in a responsible future! This network of investment professionals publishes an authoritative

directory of socially responsible investment vehicles.

## TRILLIUM ASSET MANAGEMENT CORPORATION (FORMERLY FRANKLIN RESEARCH & DEVELOPMENT)

711 Atlantic Avenue, Boston, MA 02111. 800/548-5684, 617/423-6655, www.trilliuminvest.com.

This newly re-named firm pioneered socially responsible investing. Heavy on research, Trillium explores company practices and advocacy work, directing investments into under-served

communities and using its stakeholder role as leverage to effect positive change in targeted companies. It also advocates against investment in repressively governed countries such as Afghanistan.

**KINDER, LYDENBERG, DOMINI & CO. INC.**  
Russia Wharf, 530 Atlantic Avenue, 7th Floor, Boston, MA 02210. 617/426-5270, sri@kld.com, www.kld.com.

This investment management firm maintains an index for measuring the performance of socially screened

portfolios. It publishes a guide to socially responsible investing: "Mission-Based Investing: Extending the Reach of Foundations, Endowments, and NGOs," available by request without charge. It bears mentioning that the staff at KLD was delightful when we called.

## ECONOMIC PRESSURE

**UNION OF NEEDLETRADES, INDUSTRIAL AND TEXTILE EMPLOYEES (UNITE)**

1710 Broadway, New York, NY 10019. 212/265-7000, webmaster@uniteunion.org, www.uniteunion.org/index.htm.

This aggressive four-year-old union negotiated the first code-of-conduct agreement with employer associations in powerful northeastern markets, and established a community-based initiative to organize immigrant workers in the New York area. UNITE, like the Interfaith Center, separated from the Apparel Industry Partnership in protest over the Partnership's track record on living wage.

Department of State issued a stinging indictment of the SLORC in its annual human-rights report. Unocal reportedly paid the Burmese government a bonus of several million dollars to sign this deal ahead of an anticipated US government-imposed ban on new investments in Burma (a ban signed by President Clinton in May 1997). Although the executive order allows companies such as Unocal to complete ongoing contracts, it is not clear whether they will be able to engage in any additional work that would require new funds. The ban carries a penalty of up to ten years in prison and a \$55,000 fine.

### A Ruling with Teeth

When the California "John Doe" lawsuit was first filed in the fall of 1996, it was written off by Unocal spokespersons as "politically motivated" and not "serious." But the company began to change its tune after US Federal District Judge Richard Paez denied Unocal's motion to dismiss the case. Judge Paez removed Burma's military rulers and the state-owned energy company as defendants in the case, on grounds that they are protected by sovereign immunity under the Foreign Sovereign Immunity Act—but he also refused to dismiss the case against Unocal, ruling that the Burmese government was not an "indispensable party" to the suit, and consequently rejecting the company's claims that they should not be held liable for any alleged abuses committed by their business partners. Judge Paez said Unocal and its chief executives could be held liable if it were proved that the company and the Burmese government had

"conspired or acted as joint participants to deprive plaintiffs of international human rights in order to further their financial interests in the Yadana gas pipeline project."

In an especially important part of his ruling, Judge Paez found that his California court had subject-matter jurisdiction over the plaintiffs' claims. The issue for the court was whether claims based on international human-rights law could be asserted against private individuals. The judge found that they could, in cases where there is "a substantial degree of cooperative action" between the private parties and a state actor engaged in acts of torture or other violations.

Moreover, citing well-established precedents concerning piracy and slave trading, Judge Paez ruled that the forced-labor practices of the SLORC connected with the Yadana project were "sufficient to constitute an allegation of participation in slave-trading" — one of a handful of private acts subject to individual responsibility under customary international law. By paying the SLORC for security for the pipeline, the defendants were "essentially treating SLORC as an overseer, accepting the benefit of and approving the use of forced labor." He found that it was not implausible to suppose that "Unocal and its officers knew or should have known about SLORC's practices of forced labor and relocation when they agreed to invest in the Yadana gas pipeline project, and that, despite this knowledge, they agreed that SLORC would provide labor for the joint venture and would be responsible for clearing the way and providing security."

Judge Paez ruled that the plaintiffs could conceivably prove their allegations that Unocal and SLORC had indeed either conspired or acted as joint participants to deprive plaintiffs of international human rights in order to further their financial interests in the pipeline project.

### Due Diligence: What More Can a Company Do?

As if all this were not enough to worry transnational corporations, in July 1998 the Treaty to Establish an International Criminal Court (ICC) was concluded in Rome. Despite severe opposition from the US, the treaty was recently signed and is expected to come into full force within a matter of a few years.<sup>2</sup> While directed principally toward crimes against humanity committed by governments and government officials, the ICC treaty does contain some provisions that may make it possible to hold corporate officers accountable for complicity. Maurice Nyberg, a lawyer who has worked for the UN in Rwanda, wrote:

Commercial lawyers should be aware that an omnibus provision in a treaty signed this month could create international criminal liability for employees, officers and directors of corporations. The accomplice liability provision, included in the Rome Statute of the International Criminal Court [the ICC Treaty] could apply to personnel of corporations—including financial institutions and insurance companies—based upon their involvement in

<sup>2</sup> To date, seventy-nine countries have signed the ICC treaty. Two, Senegal, and Trinidad and Tobago, have ratified it.

How long until full ratification? Here's one prediction from ICC watchers: longer than it took for the Land Mines and Chemical Weapons Convention (about two years), but less time than for the UN Covenants on Civil and Political Rights and on Economic, Social, and Cultural Rights (ten years).

#### NATIONAL LABOR COMMITTEE

275 Seventh Avenue, 15th Floor, New York, NY 10001.  
212/242-3002, [nlc@nlc.org](mailto:nlc@nlc.org),  
[www.nlcnet.org/](http://www.nlcnet.org/).

NLC fights to educate and engage the public in the anti-sweatshop campaign around the world. It creates and sustains international coalitions against corporate labor violations, and serves as a clearinghouse on labor research.

#### RAINFOREST ACTION NETWORK

221 Pine Street, Suite 500, San Francisco, CA 94104.  
415/398-4405,  
[rags@ran.org](mailto:rags@ran.org), [www.ran.org](http://www.ran.org).

This veteran tropical-forest defender is determined that we understand our powers to effect change through our purchasing decisions. It organizes campaigns and direct-action projects to change the way we spend and whom we patronize. RAN's boycotts started with Burger King in 1987; today, it leads a campaign

against Mitsubishi's timber-trading activities.

#### CLEAN CLOTHES CAMPAIGN

PO Box 11584, 1001 GN Amsterdam, the Netherlands.  
+31(020) 412 2785,  
[ccc@xs4all.nl](mailto:ccc@xs4all.nl),  
[www.cleanclothes.org](http://www.cleanclothes.org).

The "clean" stands for "fair": produced under decent working conditions. That's the aim of this organization's research and exchange programs, and what drives its campaign to improve work environments

in the garment industry worldwide. Its international forum examines corporate behavior by retailers. CCC publishes an English newsletter two to three times a year; request by email or snail mail, and send a money order for US\$10.

#### SANCTIONS/ DISINVESTMENT

FREE BURMA COALITION  
PO Box 19405, Washington, DC 20036. 202/777-6009,

[info@freeburmacoalition.org](mailto:info@freeburmacoalition.org),  
[www.freeburmacoalition.org](http://www.freeburmacoalition.org).

FBC is the umbrella group for organizations around the world working for freedom and democracy in Burma. Its grassroots movement is modeled after the anti-apartheid movement of South Africa, and strives to cut off the flow of foreign currency from multinational corporations (Unocal, TOTAL, Mitsubishi, and Suzuki among others) to the unauthorized SLORC (now SPDC) government.

international commerce. Complicity includes 'providing the means for...' or contributing 'in any other way...to the commission or attempted commission' of a covered crime. The mental state requires 'knowledge of the intention of the group' that commits the offense. Knowledge is defined as 'awareness that a circumstance exists or a consequence will occur in the ordinary course of events.'

Among the sorts of crimes against humanity for which corporations or their officers might be complicit are deportation or forcible transfer of a population, sale of goods used in crimes of aggression, and gender discrimination and persecution.

### Massachusetts Against the Globalists

A coalition of major US corporations opposed to the spread of citizen activism in foreign affairs filed a constitutional challenge in federal court, in May 1998, against a Massachusetts law banning state purchases from companies doing business in the renegade nation of Burma. The lawsuit was brought by the Washington-based National Foreign Trade Council (NFTC)—whose 580 members include most big-name US multinationals, including Burma investors Arco and Unocal. It claims that such local statutes as that in Massachusetts violate the US Constitution, which gives the federal government the right to make foreign policy and regulate foreign commerce, and is the "supreme law of the land."

Until this time, corporations had been reluctant to confront such local

statutes for fear they would be portrayed as cheerleaders for repressive governments. But the rapid spread of selective-purchasing measures has raised the stakes. Since December 1996, twenty-eight state and local governments have enacted various purchasing laws targeting Nigeria, Switzerland, Indonesia, and China, in addition to Burma.

Transnational corporations scored a major victory against human-rights and environmental activists in November 1998. Federal-court judge Joseph L. Tauro ruled that the Massachusetts law making it more difficult for companies that do business in Burma to win state contracts violates the US Constitution. Judge Tauro found that the law, which adds a 10-percent penalty to bids for contracts by companies with investments in Burma, "impermissibly infringes on the federal government's power to regulate foreign affairs."

Early in the case, the judge denied the state's request that the Trade Council identify specific companies which had been harmed by the Burma law in order to establish their standing to bring the lawsuit. Instead, Tauro permitted the NFTC merely to assert that more than thirty of its members had been affected. A spokesperson for the Massachusetts Attorney General said that the state would appeal the decision, and some observers believe the case will eventually have to be decided by the Supreme Court.

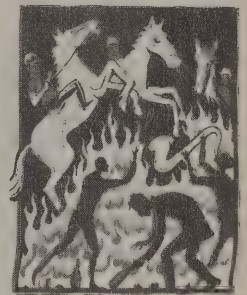
The European Union (which filed a brief to the court in support of the Trade Council's position, and protested to the World Trade Organization that Massachusetts cannot create laws using

non-economic criteria in contract bidding) and the Trade Council applauded Judge Tauro's ruling. But Simon Billenness, spokesman for the Free Burma Coalition, and a senior analyst at Trillium Asset Management Corporation (then FRD), was defiant: "Boycotts based on human rights have been a cornerstone of our democracy since the Boston Tea Party. We cannot allow a few corporations to remove this democratic tool so that they can profit from a murderous military junta."

### Who Can Decide Global Ethics?

The Massachusetts judgment has major implications not just for human-rights activists opposed to the military regime in Burma, but for the future relationship between state and other local political jurisdictions, on the one hand, and the federal government on the other.

It is clear that both the boardroom and the courtroom are important new battlegrounds for the human-rights movement, and are likely to continue to be in the future. But transnational corporations, and their allies in major governments and intergovernmental trade and investment organizations such as the WTO and the OECD, are not taking these tactics lying down. They are mobilizing their considerable resources to block attempts by NGOs to use law to hold them accountable for complicity with human rights-violating governments. It remains to be seen how this struggle will turn out. ❀



ERIC DROOKER

### GOVERNMENT REGULATION/ INTERNATIONAL AGREEMENTS

#### US COUNCIL FOR INTERNATIONAL BUSINESS

1212 Avenue of the Americas, New York, NY 10036. 212-354-4480, www.uscib.org.

This council—American affiliate of the International Chamber of Commerce (ICC),

the Business and Industry Advisory Committee to the Organisation for Economic Co-operation and Development (OECD), and the International Organisation of Employers (IOE)—officially represents US business positions here and abroad. It promotes an open system of world trade, finance, and investment in which business can flourish while contributing to economic growth, human welfare, and protection of the environment. Its membership of 300 businesses worldwide endorses

standardization of commercial practices in the ICC.

### LEGAL APPROACHES

#### CENTER FOR CONSTITUTIONAL RIGHTS

666 Broadway, 6th Floor, New York, NY 10012. 212/614-6464, CCR@igc.apc.org.

Rooted in the 1960s' civil-rights demonstrations in the American South, CCR is a

nonprofit legal and educational organization predicated on the US Constitution and the Universal Declaration of Human Rights. CCR is committed to a creative use of law as a force for social change.

#### EARTHRIGHTS INTERNATIONAL

2012 Massachusetts Avenue NW, Washington, DC 20036. 202/466-5188, eri@igc.org.

Human rights and environmental action connected at the hip. The "rights" in the

name are those "that demonstrate the connection between human well-being and a sound environment." ERI uses legal power and people power in its defense of a healthy environment and the freedom of citizens to speak for and protect that environment. It strongly encourages the public's participation in development decisions that affect the Earth.

## HUMAN RIGHTS

# GLOBAL ASPIRATIONS, LOCAL GOSPELS

by Blair Gibb

Most of the human-rights standards which now exist in international law ultimately derive from the international teachings of the world's major religions/philosophies. The presumption of innocence comes from ancient Islamic law; Confucius devoted great attention to the obligations of a sovereign toward his people; and the Judeo-Christian "golden rule"—the idea of reciprocal obligations, responsibilities, and respect—has shaped the fundamental standards of behavior of most cultures.

The standards we now call "rights" were formalized over centuries in various national legal systems. In the twentieth century these under-

standings have been codified in several major international conventions agreed to by a majority of the world's nations, starting with the Slavery Convention of 1926. The most important of these is the Universal Declaration of Human Rights (UDHR), proclaimed in 1948 by the founding members of the United Nations. The preamble to the UDHR calls for its provisions to be promoted and supported by "every organ of society," which presumably includes business.

The UDHR, while inescapably a political document in the sense that it was the product of the concerns and agendas of particular nations at a particular time, has, since 1948, defined

the frontiers and terms of the various debates over human rights. It contains thirty principles, which include not only civil and political rights, but economic, social, and cultural rights as well.

Civil and political rights include the rights to freedom of religion, freedom of association, freedom from torture and slavery, freedom from discrimination, and the right to participate in government through the electoral process. Economic, cultural, and social rights include the right to education, the right to just and favorable conditions of work, and the right to participate in cultural life.

Most of the rights and freedoms in the covenants may be limited by national governments—for example, in times of national emergency. However, there are certain rights that are "non-derogable"—in other words, under international law, no state can limit or deny them under any circumstances. These include:

Right to life

Right to recognition as a person before the law

Freedom of thought, conscience, and religion

Freedom from torture

Freedom from slavery

Freedom from imprisonment for debt or from retroactive penal legislation.

Most of these international agreements have the tone of statements of aspiration rather than reality—the way we would like the world to be, rather than the way it usually is. But collective aspirations are important statements and have played a powerful role in human history. Without them, there would still be millions of human beings sold into slavery, burned or hanged as witches, and victimized by other practices that the vast majority of us now rightly reject.

## Universal? Says Who?

Lurking behind the definitional issue of human rights is the complex and controversial problem of whether human rights are "universal" or just "Western" values. The UDHR, of course, states that the freedoms and rights it contains are universal and apply to all human beings by virtue of their common humanity. Dr. Morton Winston describes an Asian "challenge" to the UDHR which emerged in the Bangkok Declaration, adopted at the World Human Rights Conference Regional Preparatory meeting in 1993. Several Asian states, including Singapore, Malaysia, Indonesia, and China, refuted the notion—intrinsic to the UDHR—that human-rights standards can be "universal." The Asian countries maintained that recognition of "cultural particularities" was prerequisite to interpreting human-rights standards for international application; that their

Blair Gibb was a poet, and worked as director of the London offices of the Massachusetts, New Jersey, and New York Port Authorities. She spent a year with Amnesty International in their corporate-outreach and long-term-management programs. I met her at a Global Business Network meeting and found her eclectic combination of poetics, urban-infrastructure concerns, and dedication to human rights seamless and care-full. She died in March of this year. This article is adapted from "The Futures of Human Rights" (December 1997) in *Deeper News*®, a series of articles published by Global Business Network. —PW

**Who is bought  
and sold? Who  
is beyond the  
law? Who is free  
to choose? Who  
follows orders?  
Who salutes  
longest? Who  
prays loudest?  
Who dies first?  
Who laughs last?**

societies have different priorities and that economic development, social cohesion, and other goals are more important to them than individual freedoms. The principal objections were to what these countries considered inappropriately absolute language regarding civil and political rights, such as freedom of speech and, especially, freedom to criticize the government. Article 19, for instance, says that “everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive,

destructive behavior. I recently heard on the radio that the board of supervisors in my parents’ rural county had voted down several minor recommendations for environmental regulation of oceanfront construction, having concluded that, “while the recommendations were worthwhile, they would interfere with the individual’s right to do as he pleases.” This may be an extreme example, but to large parts of the world, this is the American Way—unconcerned with the needs of a larger

and impart information and ideas through any media and regardless of frontiers.” China’s tight control of its citizens’ access to the Internet, for example, would be a violation of human rights under this article.

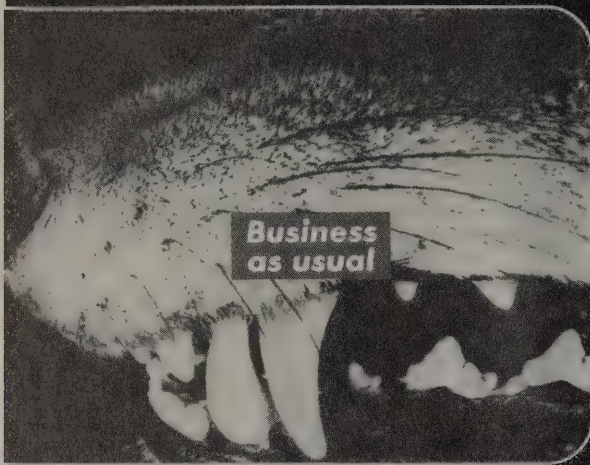
As Morton Winston says, some human-rights advocates fear that consideration of “cultural particularity” might introduce a means for individual governments to pick and choose which standards apply to them. The Asian demurrals were quashed at the Vienna World Conference later that year with this insertion into the Vienna Declaration: “The universal nature of these rights and freedoms is beyond question.” Nonetheless, the marker has been put down, and the ongoing shift of economic power to the East guarantees, at the very least, that the debate will continue. It has challenged the primacy of the US Model as the model of freedom.

#### **Individualism versus Cohesion**

The US model is the most individualistic and socially least cohesive of comparative cultures, leading to a freewheeling, heterogeneous society full of contentious pluralism, social Darwinist economic practices, and self-

Left: Untitled,  
BARBARA  
KRUGER (1989).  
COURTESY OF  
MARY BOONE  
GALLERY, NEW  
YORK.

# Human Rights Scenarios: 2020



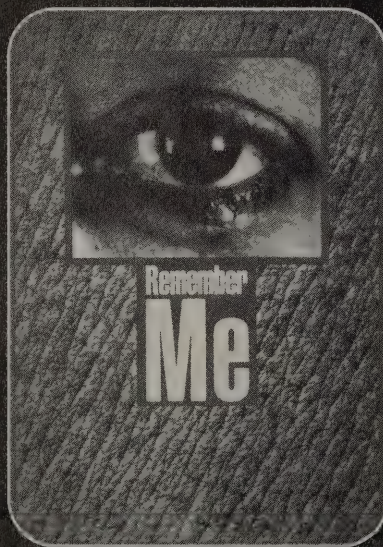
## ALL THE HUMAN RIGHTS MONEY CAN BUY

Efficiency and unfettered market forces rule. Economic power drives foreign policy. Intergovernmental agencies such as the UN have become more and more irrelevant as nations such as the US insist they take on only minimal functions. The world follows the US model, with growing income inequality and fewer and fewer "safety nets." The scaling down of government services in the West leads to the effective privatization of even such functions as law enforcement. In this climate, human rights indeed become a luxury available only to those who can afford them, and enforceable only when organizations with money—primarily corporations—choose to put resources behind them, usually for marketing or public-relations purposes.



## CONSENSUS

This is a world in which nineteenth-century empires and their former colonies finally come to terms with one another around deeply felt social and individual values. It is a more peaceful and prosperous world than during the twentieth century, as the West absorbs the Asian message that social cohesion is sometimes more important than economic individualism; nations without democratic histories come to accept that human rights matter as much to their own citizens as to Westerners; and the great religions play an increasingly important role in resolving international and civil conflicts. Differences between crimes and punishments are hotly but peacefully debated. Centers of economic power become more balanced as China and India grow richer and more assertive within their subregions. Technology imbalances grow less pronounced, encouraging economic growth to become more evenly distributed.



## VALUE ISLANDS

A fragmented world. Deep cultural differences divide East and West, economic tensions divide North and South, and nations turn more and more inward. Economic globalization slows down, hurting growth in some of the poorer nations, and leads to frustration among the poor, with a resulting increase in civil conflicts and authoritarian regimes. Multinational agencies wither and are slowly replaced by regional entities. Asia booms, its huge domestic markets providing ample scope for its emerging industries so that trade with the West is hardly missed. The older industrial societies of Europe and North America have a harder time of it and living standards begin to fall, causing more internal disarray. Military conflicts between the regions are rare, with each one self-absorbed and concerned with its own problems. "Human rights" fragments into rights recognized by nations apathetic to one another's standards.

Top: Untitled,  
BARBARA  
KRUGER (1989).  
COURTESY OF  
MARY BOONE  
GALLERY

MIDDLE: ANNE  
ADELSON.

Bottom:  
Untitled,  
BARBARA  
KRUGER (1989).  
COURTESY OF  
MARY BOONE  
GALLERY



# WHOSE HUMAN RIGHTS BECOME "OFFICIAL" IS NOT A TRIVIAL QUESTION

society at home, but quick to lecture other countries about their own behavior.

In the US model, much more than in other countries, society exists to serve the individual and allow the fullest possible self-expression. Extremes of wealth and poverty, profligacy with natural resources, high crime levels, and other features of society that would be considered unacceptable elsewhere are tolerated in the US in the name of individual freedom. The creativity and economic power this tolerance has created may be a source of envy and admiration, but for many outside the US, the social price paid for these benefits simply looks too high.

In many other societies, the individual exists to serve a greater good—his or her family, clan, faith, or country. Problem solving is done not by individual heroes but by negotiation, consensus, group agreement; individuals are willing to give up a certain amount of “freedom” in return for security and relative lack of conflict. Egyptian law professor Kamal Abu al-Magd has observed, “The chances for the effective protection of human rights should be greater if you have a community of individuals competing to fulfill obligations rather than having a community of individuals fighting selfishly for their rights.”

Singapore’s economic growth and social cohesion are greatly admired by many developing countries. How much significance Singapore places on the obligations of the individual to the larger community was brought home to the world in 1994, when Michael Fay, a young American convicted of

vandalism (spray painting graffiti on cars), was sentenced to flogging. Like many Americans who visit the Port of Singapore’s headquarters building, I am struck by the rolling digital display in the elevators showing the repeated phrase, “Good character will be rewarded.” Such slogans would probably be considered unbearably coercive (or worse, laughably uncynical) in a New York office building.

While the industrialized democracies consider the Universal Declaration of Human Rights a legitimate and timeless statement of “universal” values, much of the developing world views the agreement as a more limited product of negotiation and compromise among superpowers, not necessarily applicable to their own communities. Within this difference of opinion lies the seed of one of the major challenges of the future: enforcement of these rights in a genuinely multicultural context. In my experience, Europeans, without pretending to be moral exemplars but with their own memories of twentieth-century horror still alive, are more sensitive than Americans, with their notorious short memories and resulting ability to forget their own past complicities (e.g., installing and supporting repressive regimes abroad, or the extermination of indigenous Native American peoples).

Whatever de jure standards develop in the human rights area, it is de facto standards that matter in the crunch. Whether or not the international community, or segments of it, can develop genuine methods to enforce human-rights values and protect real lives will be the defining issue for the next century. ❀

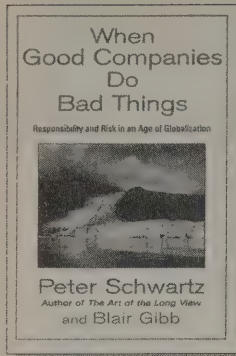
## Humane Access

On December 10, 1948, the General Assembly of the United Nations assembled language which, for the first time, identified and proclaimed standards for the treatment of human beings in every corner of the world. The Assembly enjoined member countries to disseminate and underscore the Universal Declaration of Human

Rights in educational institutions without regard to territorial political status. It was the most important undertaking, ever, to codify human-rights standards for universal application. The full text of the Universal Declaration of Human Rights is available from the UN Web site dedicated to the UDHR: [www.un.org/Overview/rights.html](http://www.un.org/Overview/rights.html).

For a broad view of what the UN considers basic human rights, and how that agency and others are addressing them, a series of human-rights fact sheets, published by the Office of the High Commissioner for Refugees, can be downloaded from: [www.unhchr.ch/html/menu6/2/fact.htm](http://www.unhchr.ch/html/menu6/2/fact.htm).

Afrikaans, Amharic, Ashéninka, Balinese, Bengali, Bora, Bugisnese, Cakchiquel, Campa pajonalino, Caquinte...an alphabetical listing of all UDHR translations gives an inkling of the near-universality, anyway, of access to this document: [www.unhchr.ch/udhr/navigate/alpha.htm](http://www.unhchr.ch/udhr/navigate/alpha.htm).



**WHEN GOOD COMPANIES DO BAD THINGS**  
 Responsibility and Risk in an Age of Globalization

Peter Schwartz and Blair Gibb. 1999; 194 pp. \$29.95. John Wiley & Sons, Inc.

This book is for corporate executives who would like to develop a social conscience—

and for activists who would like to persuade corporate executives to *want* one.

At its core are case studies of companies that have come under intense social criticism following events or revelations that damaged their reputation: Union Carbide after Bhopal; A.H. Robins after the Dalkon Shield; Exxon after Valdez; Nestlé and infant formula; Shell in South Africa; Texaco and racial discrimination; Unocal and Burmese human-rights violations; Nike and Asian sweatshops.

It also contains brief but interesting discussions of the “best practices” of some of the world’s most socially responsible companies: the partnership between American Express and Share Our Strength; Hewlett Packard’s “HP’s Way” philosophy; Land O’

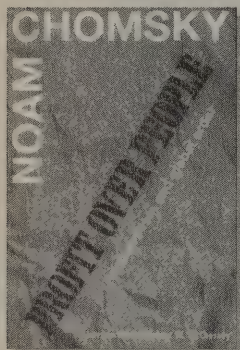
Lakes’s trading initiative with Chiapas; Levi-Strauss’s anti-AIDS project; and Bata Shoe Company’s village-based cooperative manufacturing project in northeast Thailand.

The argument is that because today’s consumers are more socially conscious, companies that don’t behave in socially responsible ways will increasingly risk their bottom lines. Those that do behave well can *do* well, by doing what’s right. The authors make a case for corporate boards and top management integrating social responsibility into their companies’ business plans through stakeholder analysis. Their basic approach, however, won’t satisfy critics who believe that corporations are embracing voluntary codes as a public-relations ploy designed to fend off what they really worry about—lawsuits, government regulation, and sanctions. —Morton Winston

“...corporations as social organisations have been the targets of various reform movements throughout history. The experiences...underscore this fact: each concentration of power seems to hold within itself the germ of its own opposition. As soon as power becomes too visible, too proud, too concentrated, a movement of some kind sets out to limit or constrain it.

“For our part, we think that a world which assumes that good companies cannot exist will certainly not get as many of them as a world which expects companies to behave well and puts pressure on them to do so. Even more fundamentally, we respect economic and commercial activity as a basic human impulse—one that ideally ought to bring not just sustenance but opportunities for creativity, personal development and service to all of us. When corporations behave responsibly, they can be important transmitters of knowledge and skills as well as sources of the societal wealth required to create jobs, entrepreneurial opportunities and family security. Therefore, we reject the theory that companies bring public wrath down upon themselves because, as capitalists, they can’t do anything right—we believe that they can and should.

“Companies that emerge from a crisis relatively well tend to be those in which senior management is personally and visibly involved, focusing on substantive responses to victims or potential victims of the event, and communicating clear directions to employees.



**PROFIT OVER PEOPLE**  
 Neoliberalism and Global Order

Noam Chomsky. 1999; 224 pp. \$15.95. Seven Stories Press.

Chomsky’s thirty-sixth book amasses several of his recent lectures and essays on global corporate rule. His aim is to draw back the curtain on the essential features of a global economic and political system run by and for the “virtual senate” of rich men who rule

the world. These princes of industry control global corporations, their political allies in government elites, and the intellectuals, pundits, and public relations people whose job it is to convince the rest of us that we live in the best of all possible worlds after all.

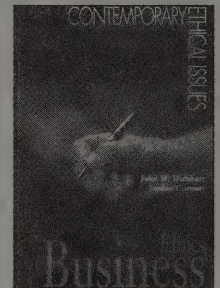
But the people have the power to take control of their own destiny. Essays on the Zapatista rebellion, the historical watershed in South Africa, and the recent battle against the Multilateral Agreement on Investment (MAI), in which activists and NGOs derailed secret negotiations that would have further consolidated corporate rights at the expense of labor rights and the environment, show

that popular mobilization is the ultimate weapon against the domination of business over society. —MW

“Contemporary “experiments” follow a familiar pattern when they take the form of “socialism for the rich” within a system of global corporate mercantilism in which “trade” consists in substantial measure of centrally managed transactions within single firms, huge institutions linked to their competitors by strategic alliances, all of them tyrannical in internal structure, designed to undermine democratic decision-making and to safeguard the masters from market discipline. It is the poor and the defenseless who are to be instructed in these stern doctrines.

“It is important for the general population to discover what is being planned for them. The efforts of governments and media to keep it all under wraps, except to their officially recognized “domestic constituencies,” are surely understandable. But such barriers have been overcome by vigorous public action before, and can be again.

ACCESS TO BUSINESS ETHICS



**BUSINESS ETHICS**  
 A Reference Handbook

John W. Dienhart and Jordan Cumutt. 1998; 444 pp. \$55. ABC-CLIO, PO Box 1911, Santa Barbara, CA 93116. 805/968-1911, market@abc-clio.com, www.abc-clio.com.

This volume in the Contemporary Ethical Issues series introduces the basics of ethics in business conduct—concepts such as responsibility for harm (the “due-care theory,” the “reasonable-person standard”). The currency of business *can* be weighed on genuinely fiduciary scales...but given the \$55 in hard currency involved here, you might try the library first.

# Alice Eve Kennington

• A Good-Bye and Thanks from Whole Earth •

Linguist, political scientist, Hofmannsthal scholar, classicist, woman of enormous humanity, and like-minded friend of *Whole Earth*, Alice Eve Kennington achieved something rare in the years before her death on October 10, 1998. She found a calling in the service of historical truth. In 1984, in the Office of Special Investigations' War Crimes Division, Alice undertook what would become the mammoth job of overseeing translation services essential to the division's pursuit of justice for victims of Nazi atrocities and other European war crimes. In a single, four-month period, she supervised the translation of documents in eight languages, and arranged for the translation of 1.3 million more words in thirteen languages.

German was second nature; she was proficient in French, Italian, and Latin, and knew some Greek. Champion of precision, in love with words themselves, once a literary historian and critic, she brought to the world of government translations a sense of the power and dignity of language.

In his eulogy, Eli M. Rosenbaum, Director of the Office of Special Investigations, expressed the confluence of her worlds: "We at OSI depended on her to give meaning to words, and thereby allow us to give full meaning to history." Her daily currency became the language of horror, of the inhumanity of people to people. And always, even after nearly fifteen years, she was moved—sometimes to the point of heartbreak—by the wrenching testaments she worked to keep alive.

A legend for her generosity, Alice placed friendship above everything; people came first, in the pages of history and in real life. The day before her death, she bequeathed *Whole Earth* \$15,000—"for doing the right thing," she said. We sadly say good-bye to a friend in whom we saw the best of so many worlds. Thank you, Alice.

I met Alice up the dirt road from my stone home in Tucson. She was visiting her daughter, my neighbor Ellinor, one of the world's finest freshwater-snail biologists and surrogate aunt to Claire ("the kid next door"), to whom I was surrogate uncle. Over wine and ease, we shared our views of the Holocaust and looked at each other with tears in our eyes—wondering, amazed at what we knew. —PW

The global economy is now also a networked economy. Increased watchfulness begins to match the vastly increasing global power of large corporations. The value of a brand name in the market is coming to owe as much to the virtue of the company as to the quality of its products or services.

*The Ethical Imperative* is well researched and well written. The author's voice is not that of a railing outsider, nor of someone with a political agenda or shallow theory, but of a concerned insider. There is a surprising "get it" quality, a conversion, when people catch on to their larger responsibilities—everything changes in light of the new understanding. Policy is completely rethought at the deepest level; details of execution have to be recalibrated, often profoundly revised, to new standards. This takes time, and steady purpose. Likewise the rewards are slow, but great. —Stewart Brand (Courtesy of Global Business Network)

“The global economy holds much greater potential than its critics think, and much more disruption than its advocates admit. By definition, a global economy is as big as it can get. This means that the scale of both the opportunity and the consequences are at an apex.

“Having mastered the fundamentals of competitiveness, Microsoft and Nike must progress to a level of business and ethical maturity that better reflects their global standing and importance. Part of this growth requires leaving behind the insecurities and justifications for ethical insouciance that suited the companies as start-ups.

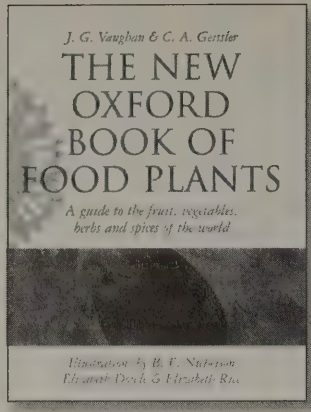
## The Ethical Imperative

Why Moral Leadership Is Good Business

**THE ETHICAL IMPERATIVE**  
Why Moral Leadership is Good Business

John Dalla Costa. 1998; 354 pp. \$ 27.50.  
Addison-Wesley.

WHOLE EARTH • SUMMER 1999



**THE NEW OXFORD BOOK OF FOOD PLANTS**  
**A Guide to the Fruit, Vegetables, Herbs and Spices of the World**

J.G. Vaughan and C.A. Geissler. 1997; 239 pp. \$45. Oxford University Press.

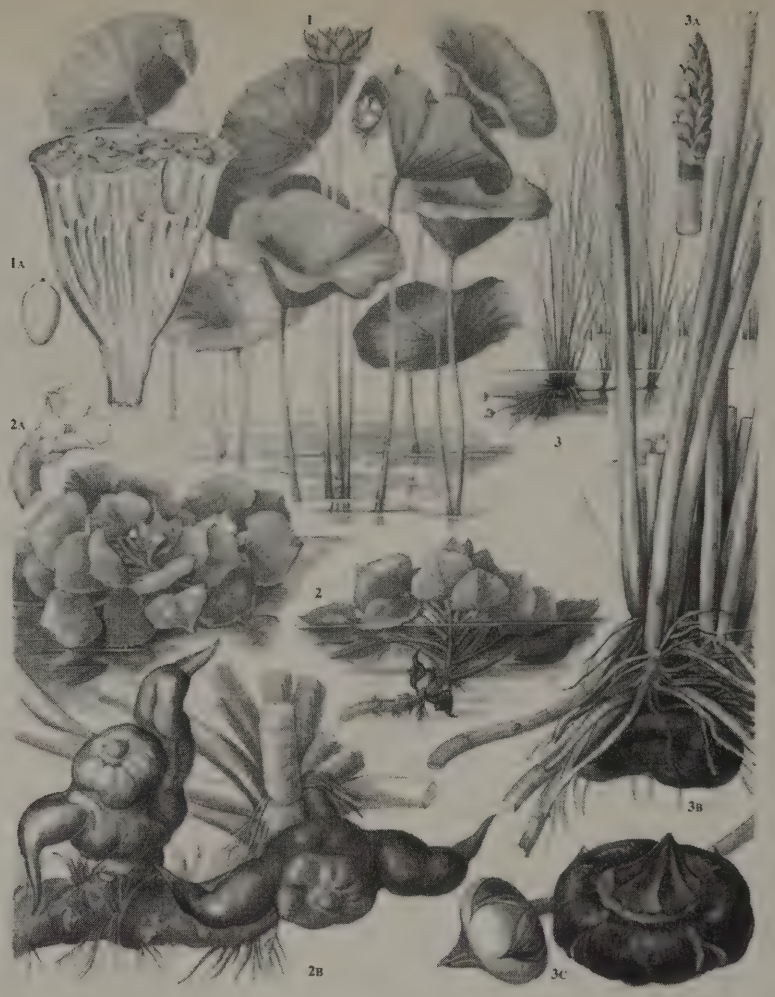
Far right: Exotic water plants used as food: lotus, water chestnut, and chinese water chestnut.

This is, simply, the best source of information on the domestication and distribution of food plants. The purpose of the original *Oxford Book of Food Plants*, published in 1969, was to describe the origin, distribution, structure, cultivation, utilization, and nutritive value of the world's common food plants, as well as some lesser-known species.

Almost overnight it became a standard, the rare book that can satisfy the scientist and non-scientist alike.

The new edition is even better. It retains the original format, with arrangement of plants into groups (sometimes but not always botanically related) according to the kind of food they provide.

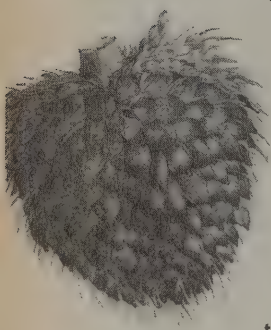
The original plant entries have been revised and updated. Each entry includes information on the history of the plant's domestication, its uses in various cultures, its botanical description, and analysis of its nutritive value, as well as a sumptuous botanical illustration. What you won't find is much in the way of growing tips or lists of cultivars and varieties, either modern or heirloom. However, *The New Oxford Book of Food Plants* complements conventional horticultural texts nicely. To the new edition several new species (including quinoa, mooli radish, and lotus root) have



been added, as well as a substantial chapter on nutrition and health at the end of the book, followed by a series of tables summarizing the caloric values, vitamin and fat content of major food plants, and food consumption patterns in selected countries.  
 —Janet Marinelli

“WATER-CHESTNUTS *Trapa* spp. These are aquatic plants with floating diamond-shaped leaves and submerged, finely divided, feathery leaves (sometimes regarded as roots). The small white flowers are succeeded by dark-brown woody fruits, 2.5–5 cm across. These fruits bear two or four horns, according to species. The plant belongs to the family Trapaceae. *Trapa bicornis* (two

fruit horns) is ‘ling,’ grown in China, Japan, and Korea. Its kernels are eaten boiled, in various regional dishes, or preserved in honey and sugar. It was a very important grain in China before the twentieth century. *Trapa bispinosa* (two fruit horns) is singhara nut, grown in Kashmir, India, and Pakistan. *Trapa natans* (four fruit horns) is the water caltrops or Jesuit’s nut. It was a common food of ancient Europeans, its use dating back to neolithic times. The kernels contain 16 percent starch and 2 percent protein. Because of possible toxicity, the kernels should be boiled for an hour before consumption.



Above: Fruiting spadix of the oil palm plant.

**USDA Downloadable Web Photos**

**AGRICULTURAL RESEARCH CENTER (ARS)**  
[www.ars.usda.gov/is/graphics/photos/](http://www.ars.usda.gov/is/graphics/photos/)  
**ECONOMIC RESEARCH SERVICE (ERS)**  
[www.econ.ag.gov:80/photos.htm](http://www.econ.ag.gov:80/photos.htm)

We discovered this image bonanza just about the time our friends at *HORTIdeas* did. The ARS Image Gallery is a tropical-fruit basket of slick color photos on nine agricultural topics, from lab research to fruits and veggies. We

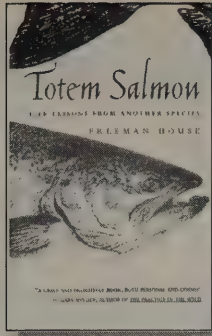
calculate about 450 high-quality digital images that can be copied directly from the Web, without charge; higher-resolution files or transparencies can be requested from the number on the page. On one of our visits,

the home page played music...rockin’ out to crop-duster photos. Great! Photos on the ERS Web site are more eclectic but less luscious: nineteen color and black-and-white images of discrete subjects—the

Connecticut River to turfgrass-harvesting equipment—plus our favorite, a twenty-one-photo sub-site of county courthouse photos. If the two-story Superman statue guarding the Massac County, Illinois Courthouse

doesn't appeal to you, you've been a civil servant too long. —NP





**TOTEM SALMON**  
Life Lessons from Another Species

Freeman House. 1999; 228 pp. \$24. Beacon Press.

Opening one January midnight in a rising north coast river, *Totem Salmon*

sweeps us into the varied and evolving efforts to restore the Mattole River's genetically precarious strain of native king salmon to some fraction of its former abundance. The Mattole Watershed Salmon Support Group and the allied Mattole Restoration Council have led a passionate, twenty-plus-year effort to restore 300 square miles of rugged California watershed; author House, co-founder of both organizations, draws us into

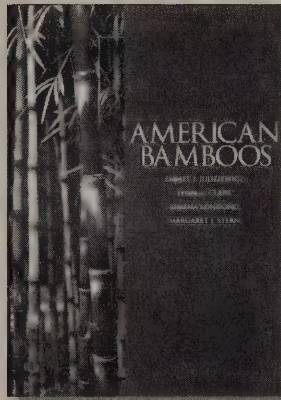
their struggle with clarity and heart.

*Totem Salmon* is both a lyric ode to a charismatic animal and a memoir of one man's calling to a regenerative life's work. House writes with intelligence and the focused energy of a big salmon bucking in its awestruck captor's hands. The book gleams, flashes, and nourishes with its compelling account of a journey into meaningful, real work. —Stephanie Mills

“...we made the startling discovery that the Mattole sheltered a strain of native king salmon not crossed with hatchery introductions...This discovery took our ambitions for the preservation and restoration of the river out of the provincial; it gave them evolutionary significance. Further research revealed that the Mattole's was one of only half a dozen isolated populations of salmon in California that retained a native intelligence that had not been dumbed

down by interbreeding with hatchery fish. The recovery and maintenance of the king salmon in our little coastal river was now more than a neighborhood issue. The long-term survival of the species could depend on the genetic variations encoded in the few remaining wild gene pools.

“The true challenge, then, was to restore the ability of the Mattole River system to maintain its wildly productive dynamic equilibrium and so eliminate the need for a bunch of humans to intervene in another species' reproductive strategies. The effort had grown well beyond population enhancement to engagement with the healing processes of the watershed so that this place could become once again a habitat that supported the needs of all its species, including humans.



**AMERICAN BAMBOOS**

Emmet Judzewicz, Lynn G. Clark, Ximena Londoño, and Margaret Stern. 1999; 392 pp. \$45. Smithsonian Institution Press.

**AMERICAN BAMBOO SOCIETY**  
www.bamboo.org.

It's odd that most of what we know about bamboo has come to us from Asia. Almost half the world's 1,200 species of bamboo are, in fact, American. The plant has shaped mythic and material life in many regions of Central and South America, where bamboo supplies almost everything, from buildings, boats, and bridges, to blowguns, tools and utensils, medicines, farm implements, musical instruments, furniture, toys....

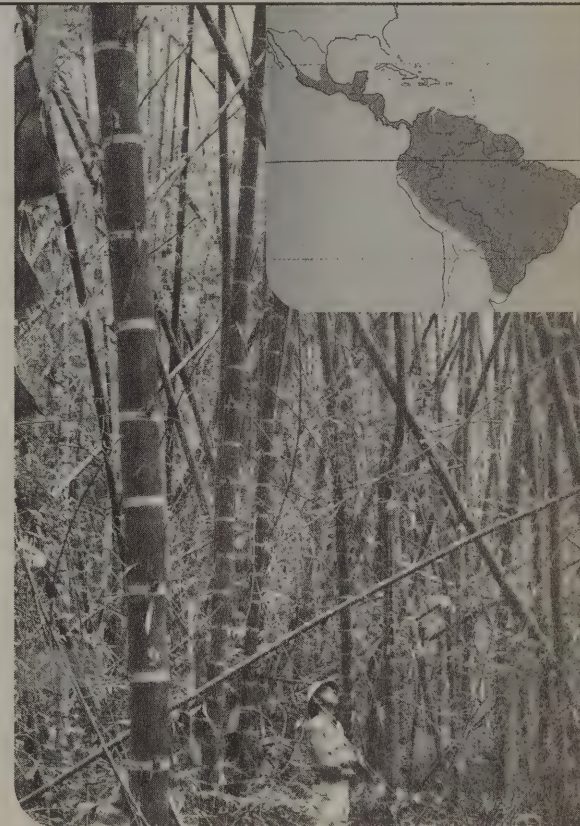
Until now, it has been difficult to find information about American bamboos. Here's the book to bridge the gap, with

numerous color photos and extensive details on the structure, evolution, ecology, and diversity of American bamboos. An identification key sorts species, giving very complete descriptions, habitat, range maps, and references. The authors discuss the conservation value, human uses, cultivation, and propagation of the bamboos.

American Bamboo Society members are concerned with all the world's bamboo species. Prospective *bambuseros* will be delighted with their well organized, informative Web site. —Karen Van Epen

“The Chocó tribe of the Río Atrato headwaters (Colombia) believe that at the beginning of the world, men tried to reach the moon on a scaffold made of guaduas; they were foiled when a woodpecker pecked through the culms and the scaffolding collapsed. The Jivaroan tribes of the upper Amazon of Peru and Ecuador sowed forests of guadua near their dwellings in homage to the earthmother god Nunkui. Even today there is a belief in southern Colombia and Ecuador that a person who encounters a flowering guadua at midnight on a Friday is destined to become rich!

“In the coffee-producing region of Colombia, *Guadua* spp. typify the



countryside and are regarded as good indicators of lands that will sustain coffee production. Coffee-processing buildings, where the freshly harvested coffee beans are fermented, cleaned, sorted, and dried, are commonly made of guadua; the entire structure is composed of guadua culms, with the exception of the wooden floors.

Floyd A. McClure in a grove of *Guadua augustifolia* in Colombia.

# elegant empathetic



*VILLA DEL NORTE in Rancho Cucamonga, California. Eighty-eight townhomes are organized around small courtyards. With only six families per courtyard, everyone knows each other quite well and the children themselves become the "gate keepers." The development represented the first opportunity in this community for Latinos and African Americans to mix in the same housing.*

Captions from DESIGNER/builder

## AN INTERVIEW WITH **michael pyatok**, AMERICA'S MASTER CRAFTSMAN OF COMMUNITY PARTNERSHIPS AND ARCHITECTURAL DESIGN

**pyatok:** I always love to tell the story of my own neighborhoods in Brooklyn, the tenements where I grew up. We lived in four-story, walk-up buildings with eight units flanking a central staircase. Each apartment was twelve feet wide by fifty feet long and had just two windows on each of the short ends. The reason those neighborhoods were so successful had very little to do with the housing design itself. It was about the economy of the times and the culture of the times. Back in the forties and fifties, and into the mid-sixties, a lot of the people in those neighborhoods had factory jobs.

They were doing something that was productive and they felt proud of it. It was certainly more dignified than flipping burgers. There was only a 3-percent unemployment rate, so they had jobs. They had all kinds of local stores to shop in; they didn't have to go to chain stores. They didn't have to own automobiles because the subway was cheap, so they had great mass transit. And they had a housing subsidy called "rent control." A lot of people may not agree with rent control, but it really helped the working class to make it in New York during those decades.

# affordable HOUSING

With those four ingredients in place, and a public school system that was still in pretty good shape, it was possible for kids to grow up and become productive citizens even though their families were earning in the bottom 25 percent. It didn't matter what the housing was. It's all these other supports that "make the village work," and that help to raise these families. If those supports aren't in place (and they're not now, in a lot of the inner-city neighborhoods), and there's no housing subsidy, and you have to go to chain stores, and you have to own a car, and the job base is very insecure—and those jobs you do get, you just can't make it on—the rest is just façade. You can give people like that the greatest-designed housing in the world, and you're just spitting in the wind.

**PW:** Can the village work if it's public housing?

**pyatok:** Public housing has had its problems for a complex set of reasons. First, because a semi-public agency is charged with authority over a vast area, usually a whole city or a whole county. They end up producing thousands of units over the years, and it's very hard to be a centralized landlord with so many units. You just can't develop intimate connections to or understanding of your residents, and your staff becomes overburdened and burnt out dealing with so many people with so many problems. Employees become pretty callous, and their hearts are not in their work after not too long.

Then, too, the projects were never funded adequately enough to really maintain the properties

well and provide all the kinds of services that such families need. So, they were sort of designed to fail: given too many units, too many families, not enough money to provide the kinds of services needed.

Nonprofit housing developers are different. Whereas a typical housing authority in, say, a city

Photos courtesy of Pyatok Associates



*VILLA DEL NORTE won four design awards. The predominantly white and wealthy surrounding suburban community had a strict design review procedure. Because this Latino neighborhood participated in the design process, the Design Review Commission accepted colors (orange, bright yellow, rich green, strong blue, and others) not normally seen in Rancho Cucamonga.*



**SILVERCREST SENIOR HOUSING**, in Puyallup, Washington—winner of two design awards. Looking like a bed-and-breakfast inn, Silvercrest's forty-one units are grouped into an apartment building that fits into the single-family neighborhood. The rear yard looks over a restored wetland. The structure scales down to heights similar to adjacent two-story homes. A deck above the front porch connects to the laundry room with its adjacent lounge, so that seniors can watch the comings and goings in the front drive.

of 300,000 may have 10,000 to 15,000 units, a successful nonprofit working in that same city may have, after fifteen years of working, 500 to 1,000 units total. Under those circumstances, they can provide a lot more intimate service to their charges and will very often find ways, from the get-go, of including at least childcare so the parents can be freed up to participate in their job training or actual jobs.

**PW:** This is a "small is beautiful" argument.

**pyatok:** Yeah, it's true. It really is true. I think all the projects we've done over the years have ranged from twenty to 100 units. The biggest low-income project we did was ninety-two units—and that came with childcare, a community center, retail, and a very active management company that sponsors lots of events and helps the tenants organize and become self-motivated in creating events for themselves and their neighbors.

I should add, on the other hand, that a number of housing authorities, in spite of their difficulties, have done a pretty good job. You know, surprisingly enough: New York City. With the 100,000 units or whatever they have, it's remarkable that they've stayed in as good a shape as they have, compared to a little place like San Francisco which has only 750,000 residents. I think San Francisco had no more than 20,000 public-housing—

authority projects, but they just made a mess of it. Chicago didn't do well, either.

**PW:** I was very impressed by your putting small retail shops in one of your housing projects, and I was wondering what happens if those communities start changing. Do those little things freeze a community into a certain kind of cultural pattern? Does it allow for change when you detail housing architecture that carefully?

**pyatok:** Well, the housing produced by nonprofits comes with funding sources that, in a sense, freeze who can live there over the life of the project. It must be used for people of modest income only. So in that sense, you've got permanently available affordable housing, to argue that you're contributing to the long-term diversity of a neighborhood.

Now the ability of the housing to transform itself over the years is something that we *do* try to build into certain kinds of projects. For example, our projects for first-time home buyers are somewhat different from our rental projects. The rental is kind of a frozen state: a three-bedroom will be a three-bedroom. But even in our rental housing, we have adapted our design. A number of groups have come to us recently, groups serving Southeast Asians whose families can become unpredictably large; we're designing two-story homes that attach to each other much the way hotels have adjoining suites.



In the ownership housing, we are building in a number of these opportunities for flexibility, with expandable attics or the ability to add a garage on the side of the house with another bedroom on the top. Even at these higher densities of twenty-five units to the acre, we try to build with this on-site expandability, to accommodate the growth of families so they're not forced to move and leave the neighborhood when they get bigger. If the family shrinks, the house can be subdivided into two, each half a smaller dwelling: one for an empty-nester and one for a starter family. Two owners can cohabit a dwelling that used to house one large family. We're also building into these "first-home" structures the means for the homeowner to rent out a piece of the house, to a roomer or an in-law, so they can pick up some additional income while actually accommodating another household without another whole unit having to be built somewhere.

**DESIGNER/builder** [see page 33]: A few years ago Michael Pyatok went down a street in East Oakland where, with no middle-class people living nearby to complain, he found a Philippine restaurant in the front yard of one house along with a hair-and-nails shop and a recycling center inside. Next door was a sheetmetal worker operating out of his garage. Across the street was a handmade sign dangling over another garage that announced the "House of Salads," where salads were prepared for restaurants in the East Bay of the San Francisco Bay Area. Next door was a man with an ice-cream truck he kept cold by stretching a long extension cord up and over the sidewalk to an outlet in his house. And down the street was a man repairing cars in his garage and front driveway.

The reason such activity works on those blocks is that all the landlords are absentee; they don't care what's going on as long as the rent is being paid and no one is squawking about keeping up the property.

**pyatok:** But public-housing authorities and nonprofit corporations come along with funding sources and a whole set of regulations that disallow all this kind of activity. You're just supposed to eat, sleep, and watch the boob tube. Anything else, you have to do elsewhere, off site. It's those attitudes that have to be changed.

**PW:** Is there any relationship between the kind of housing design and the amount of crime?

**HISMEN HIN-NU TERRACE**, a joint venture between two nonprofit developers, serves the Asian-, Latino-, and African-American communities of East Oakland, California. It won six design awards. Lining a major commercial boulevard, two front buildings contain forty-five small apartments. The ground level contains retail spaces of 100 to 300 square feet for small incubator businesses, along with a childcare center and community center. Shops no larger than fifty square feet and no deeper than five feet line the front of the indoor market hall, providing a low-overhead opportunity for very small vendors. Forty-seven three- and four-bedroom cottages, for larger families with children, are located around secure courtyards behind the two front boulevard buildings.



**TOWER APARTMENTS**, in a suburban community in Rohnert Park, California; the project won three design awards. Fifty units are organized as town houses over flats, tripling the density of the local neighborhood. Approximately twenty-five families are grouped around each courtyard. The neo-traditional architecture surrounding protective courtyards won over the hearts of neighboring home owners.

people who live there. That's the mistake that was made with a lot of site planning from the 1940s into the 1980s. The belief was that the open space you created with the housing had, in order to be sociable, to be open to everybody—including the neighborhood. With that design, it just



**pyatok:** There have been lots of claims one way or another, but I've been a bit more modest about it. I say that a lot has to do with the management company, and the screening of the initial tenants when they come in. While income levels will be low, the nonprofits generally have tough screening criteria; and then when it's being managed, they're pretty stern about the behavior of tenants. As far as the physical design goes, there are some things that can be done to make an area more secure. The more the housing can interact with the street—that is, with front doors and porches and bay windows and eyes on the street—the more you can keep that street secure. But at the same time, any public open spaces that are created on the property should be for the tenants and only for the tenants. You have to ring the housing around the open space, so that nobody can get to it except the

becomes a totally porous site that anyone and his brother can break into, with multiple ways of escaping after they've committed a crime.

**PW:** What about contrasts between different income groups?

**pyatok:** That's a little more difficult. Marin County's median income for a family of four, for example, is \$65,000—but you've got people living there now where a family of four is earning \$30,000. When you have people whose incomes are going to be at 40 to 60 percent of the median, do you drop them in the middle of a neighborhood where the people are at 200 percent—\$130,000 per year? Probably not, because that neighborhood will probably put up a big fight, and it's not worth spending years in legal battle. Some nonprofits

have done it, to their credit, and a few years after they've built, everybody in the neighborhood loves the place and realizes there really was no problem after all. The nonprofits are so tough in their screening and their management that the people they find at 50 percent of median income are exemplary members of their income class. Now, some will argue that the nonprofits are "creaming," skimming off the top of the poor, to fill their developments. On the other hand, it could be argued that a hell of a lot of work and effort goes into producing these places, and they can't be allowed to fail. Particularly in the beginning, they have to establish a track record.

Once they've got 500 units under their belt, they may be able to take on the more incorrigible families who need lots more services to support them. These families don't just need housing; they need job training, they need family counseling, they need childcare, they need all kinds of support to get them functioning again. That takes more experience, more clout, more access to funds. So a starting nonprofit would best be served by trying to provide housing for those households which, while of low income, are really doing a fine job of raising their families and staying out of trouble, even those headed by single parents.

**PW:** Hard to generalize about neighborhood design?

**pyatok:** Yeah, it all depends on the population being served. Let's say, for example, that you're looking for an appropriate site for families. Where are the local schools? the local churches? the local parks? Is it a high-traffic street? a quiet street? Is it a street that already has a lot of families on it? a street that could welcome more families? Is it a difficult slope? a flat site? What are the topographical conditions or natural conditions that need to be respected or preserved? What are the soil conditions? If it's really soft, mushy ground, is it mostly wetland? If it's mostly wetland, you've got to leave it alone. Or, if you make a change in it, you've got to restore wetlands somewhere else. Those kinds of considerations.

Sometimes it's much more than just the housing project. There is a newly formed nonprofit up in Washington which came to us to help it develop housing for very-low-income seniors. We've been doing some analyses of existing sites in their community at the same time that *they're* working with a legal-aid society to help them file their 501(c)(3)



**MIKE PYATOK** with the officers of a West Oakland neighborhood development corporation. Working as maids by day and real-estate developers by night, these women (and others) designed "in-fill" homes for their neighborhood. Their solution to home ownership for low-income families was to integrate studio-rental units, so owners could supplement their incomes and cover the mortgage. A deed restriction controls the rents, so that these units remain affordable.

papers. As soon as they get them, they'll receive a grant of \$5,000, \$10,000, or maybe \$15,000 from a local hospital. The hospital has recognized that it's in its best interest to help create housing for low-income seniors. Part of the hospital's work is preventive medicine, and the longer you can keep seniors in their own dwellings and out of institutions, the cheaper it is for everybody—for insurance companies, for the seniors, and for the community at large. If you have good support of senior housing, then the hospital can provide services with visiting nurses and doctors, and those older folks don't have to come to the emergency rooms or travel to the hospital or end up prematurely in institutional settings. The hospital has actually, as part of its preventive-medicine program, sponsored and paid for a housing consultant whose sole purpose is to help create senior housing within the orbit of that hospital.

In short, it would be great if more architects worked closely with the community in helping to design housing as a collaborative effort, so the community understands why things get put together the way they do...and the architect can get insights into how people want to live. ❁

Michael has kept his Brooklyn roots and savvy. In a journey of return, he went to Pratt, then Harvard, then back to the inner city; from hero-worship architecture to neighborhood design. He runs his own design firm (Pyatok Associates, Oakland, CA; 510/465-7010) dedicated to multi-family housing, working with both for-profit and nonprofit developers. He also teaches urban design at the University of Washington. This article is drawn from an interview, with additions and photo captions from Mike's favorite magazine, *DESIGNER/builder* (see page 35). We thank *DESIGNER/builder* for permission to quote. —PW

## STEP 1: NONPROFIT SUPPORT

The first step is to find out if there are any nonprofit development corporations in the area that have a track record of producing affordable housing. Then the group needs to contact either the city or the county to find out what its housing agencies are; who the players are and what kind of funding programs they're working with—see if they even *have* one that is seriously trying to produce affordable housing.

I suggest the nonprofits first. Nonprofits will know, inside and out, what funding sources are available from the different governmental agencies. Even if there are no nonprofits, a local community group can form its own nonprofit; there are individual housing consultants for hire who help package these kinds of deals. With a little help from Legal Aid, the group can file the papers at the state level and then become a 501(c)(3)—which is legal jargon for becoming a nonprofit.

## STEP 2: UP-FRONT FUNDS

The group should try to get some up-front administrative funds from the city or county, so that its nonprofit can hire a consultant. The consultant helps them identify potential sites for affordable housing, and then helps run what are called pro formas. The consultant puts together scenarios for possible sites, taking into account the development costs versus what people can pay and the various subsidy programs out there. That can help the newly formed nonprofit, or the community group that connected up with the nonprofit, to determine which sites are best.

## STEP 3: THE COMMUNITY BOARD

The group should really make an effort to be as broad as possible in including on its board of directors people who are housing activists or tenant activists, people from the more progressive end of the spectrum. On the other hand, they should make sure they involve what might be considered staid or conservative members of the community—bankers, business people, clergy—so their organization has a sort of mainstream acceptability and competence right from the get-go. Having on the board an attorney, businessperson, architect, those kinds of folks, or a real estate broker—someone who knows real estate development and the construction industry—is also important. These people can help steer and give advice even before the group has any paid consultants serving it.

## STEP 4: OUTREACH

After a group has achieved its nonprofit status (or connected up with a nonprofit), and it's got a good board, and it's begun to identify possible sites to develop, it then has to reach out to the communities that surround those sites...and that can be touchy. Some communities don't understand who needs affordable housing. They generally don't object to seniors. What worries them are the family-housing units, with teenagers and single parents, and not enough adult supervision, and kids running wild—and then in come drugs and other kinds of problems. These are the stereotypes that need to be overcome.

It's important to connect with the key leaders of the community early on, and maybe sponsor some living room-sized meetings to discuss the program and whom the nonprofit wishes to house. I suggest living-room settings and not the school auditorium because in three or four meetings of ten people each, in a living room, you can get a much more humane explanation of what is being proposed. People who are either nervous or upset, or even initially opposed to it, will behave themselves in their criticisms of the proposal when in somebody's home, out of courtesy to the host. Whereas, in a public forum with 200 people, they become emboldened and they scream and shout and they grandstand and treat other people as mere symbols rather than as human beings. In a living-room setting, it's a whole other decorum and demeanor. So, having three or four meetings like that within a neighborhood—preferably sponsored by someone who is well known and respected in the community, whether it's a local minister, a priest, or a community leader who has surfaced as being active at the council meetings—can be powerful. The sponsor could even be a councilperson who is supportive of the idea and initiates some meetings at his or her home.

After about three or four of those kinds of sessions, when you get a good sense of where the community is at, the initiating group can figure out whether it's ready to have an open public forum to discuss the issue—or whether it needs to. Either way, if they have the public forum, they get general support because they've got thirty or forty people (from their living-room sessions) who are at least not opposed to it, and perhaps even supportive of it. They can then move forward with their consultant and their board to begin to assess various pro formas for the sites that are being focused upon.

## STEP 5: FINALLY, AN ARCHITECT

At this stage, the group may begin to have an architect's input to help them analyze the sites. They may have got some services from an architect prior to that point, when they were first looking at sites, before they even had the community meetings—they probably wanted to have a better sense of whether those sites were worth pursuing. So they may have got some work from an architect either pro bono or from some funding source that allowed them to pay the architect.

—Michael Pyatok

## WORKSHOPS—REACHING CONSENSUS

In one recent and fairly typical project, Pyatok and his team were called in to work with a neighborhood group that was very upset with a proposal (put forth by another architect and a nonprofit developer) that did not fit the site. Pyatok started over from the top, came up with a design the community liked, and walked forty people—including residents of the neighborhood and officials from the city council and planning commission—through six workshops.

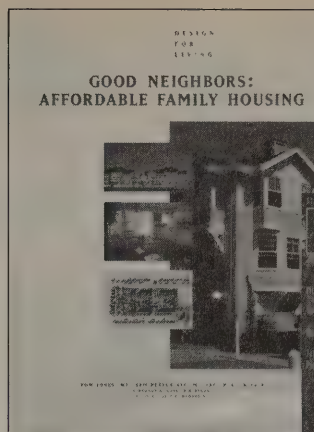
The group was broken up into four teams of ten people each. Over the years, Pyatok has identified three important issues that need to be addressed: the site plan—where things go, and how they get distributed; how the housing units themselves are organized internally; and how the image and character of the architecture fit into the larger neighborhood.

Each team got a model of the site with all the ingredients the nonprofit felt it could afford to build. There had been complaints about density, and to determine the residents' threshold of tolerance, Pyatok gave the four teams four different kits. One had fifteen units, the others, twenty, twenty-five, and thirty, and each had the required amount of parking.

"One person from our office facilitates each of those teams," he says, "even though the teams take charge of themselves pretty quickly. We're just there to answer technical questions. They start with site planning, after which each team elects a spokesperson to present their findings to the larger group."

After going through two such sessions over a two-week period, the participants come to consensus about how they want the site organized, how many units they are willing to live with, where they want the cars, and how they want the parking to work. Once they have a site plan, they use the same techniques to organize the interiors of the houses and then determine what the completed project will look like.

—from *DESIGNER/builder*

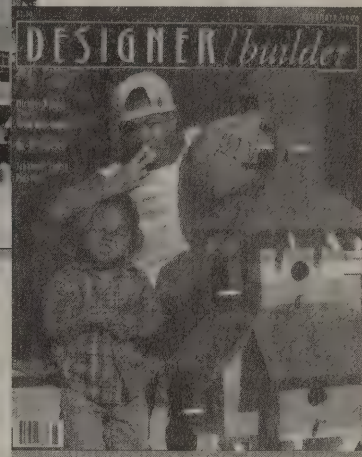


## GOOD NEIGHBORS Affordable Family Housing

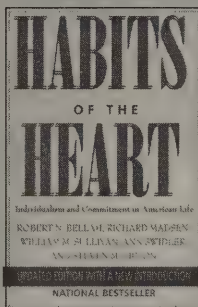
Tom Jones, William Pettus, and Michael Pyatok. 2nd ed. 1998; 268 pp. \$59.95. McGraw-Hill.

## DESIGNER/builder A Journal of the Human Environment

Jerilou Hammett, managing ed. \$28/year (12 issues). Fine Additions, Inc. 2405 Maclovía Lane, Santa Fe, NM 87505. 505/471-4549.



## Housing Access



## HABITS OF THE HEART Individualism and Commitment in American Life

Robert N. Bellah, Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. Second ed. 1996; 355 pp. \$14.95. University of California Press.

The book to start with, according to Michael Pyatok. From the radical individualism it described in its first edition, ten years ago, to what the authors now call civic membership: the inseparable natures of social and personal participation—or crisis.

**THE AFFORDABLE HOMES PROGRAM**  
*School of Architecture, McGill University, 815 Sherbrooke Street W., Montréal, Québec, H3A 2K6, Canada. 514/398-6700, avifriedman@urbarc.lan.mcgill.ca, www.mcgill.ca/homes.*

Mike Pyatok calls it "the best program of its kind." Architects Avi Friedman and Witold Rybczynski established this pioneer graduate program at McGill in 1989, to address what they perceived to be an urgent need for multidisciplinary housing design. Its mandate: to consider and involve ALL parties relevant to the provision of housing—builders, bankers, city representatives, architects, planners, and manufacturers. It accepts students from a variety of disciplines, throwing architects, planners, and landscape designers together, and strives to lower the costs of new housing with imaginative design and industrial cooper-

ation. Enthusiasm for the program's 1990 prototype, the Grow Home, was so high that thousands more were built across Québec and the rest of Canada. Full-scale simulations are still the keystone of the program. This is pragmatic study for real-world application.

**OPEN HOUSE INTERNATIONAL**  
*Nicholas Wilkinson, ed. £85/year (4 issues). Open House International, Mansion House Chambers, The Close, Newcastle upon Tyne, NE1 3R3, UK.*

A serious journal concerned with the design, theory, tools, and adaptability of housing around the world. Tackles such issues as development, energy efficiency, and prefab design from both an academic point of view and a down-to-earth standpoint. Vol. 22, No. 4 (1997) focuses on affordable housing; guest editor: Avi Friedman.

# Urban Legends

## Hydrogen Beer Bash at the Tike-Take Bar

Research has revealed this story to be an Internet urban legend. It is supposed to have fooled the *New York Times* (unless that was a metalegend).

Have you heard the story about the frog that boils to death in a pot of water whose temperature is slowly increased? We smell another urban legend there. Anyone know the scoop?



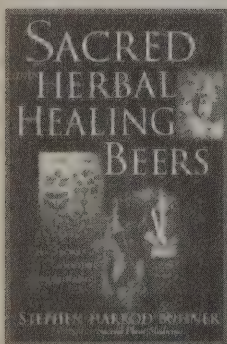
TOKYO (AP) The recent craze for hydrogen beer is at the heart of a three-way lawsuit involving unemployed stockbroker Toshira Otoma, the Tike-Take karaoke bar, and the Asaka Beer Corporation. Mr. Otoma is suing the bar and the brewery for selling toxic substances and is claiming damages for grievous bodily harm leading to the loss of his job. The bar is countersuing for defamation and loss of customers.

The Asaka Beer corporation brews "Suiso" brand beer, where the carbon dioxide normally used to add fizz has been replaced by the more environmentally friendly hydrogen gas. A side effect of this has made the beer extremely popular at karaoke sing-along bars and dis-

cotheques. Hydrogen, like helium, is a gas lighter than air. Because hydrogen molecules are lighter than air, sound waves are transmitted more rapidly; individuals whose lungs are filled with the nontoxic gas can speak with an uncharacteristically high voice. Exploiting this quirk of physics, chic urbanites can now sing soprano parts on karaoke sing-along machines after consuming a big gulp of Suiso beer. The flammable nature of hydrogen has become another selling point, even though Asaka has not acknowledged that this was a deliberate marketing ploy. It has inspired a new fashion of blowing flames from one's mouth using a cigarette as an ignition source. Many new karaoke videos feature singers shooting blue flames in slow motion, while flame contests take place in pubs everywhere.

"Mr. Otoma has no one to blame but himself," said Mr. Takashi Nomura, manager of the Tike-Take bar. "Mr. Otoma drank fifteen bottles of hydrogen beer in order to maximize the size of the flames he could belch during the contest. He catapulted balls of fire across the room that Gojira (Godzilla?) would be proud of. However, this was not enough to win him first prize since the judgement is made on the quality of the flames and that of the singing and after fifteen bottles of lager he was badly out of tune. He took exception to the result and hurled blue fireballs at the judge, singeing the front of Mrs. Mifune's hair, entirely removing her eyebrows and lashes, and ruining the clothes of two nearby customers. None of these people have returned to my bar. When our security staff approached he turned his attentions to them, making it almost impossible to approach him. Our head bouncer had no choice but to hurl himself at Mr. Otoma's knees, knocking his legs from under him.

"It was his own fault. He had his mouth open for the next belch, the lighted cigarette in front of it, and it is his own fault he swallowed that cigarette. The Tike-Take bar takes no responsibility for the subsequent internal combustion, rupture of his stomach lining, or third degree burns to his esophagus, larynx, and sinuses. His consequential muteness and loss of employment are his own fault." ❧



### SACRED AND HERBAL HEALING BEERS

The Secrets of Ancient Fermentation

Stephen Harrod Buhner. 1998; 534 pp. \$19.95. Siris Books.

When I did my first Amazonian fieldwork, a nagging question preceded each meeting with a new family. Almost certainly, the head woman of the house would offer the new guest a bowl of warm, foamy *masato*, the local beer that the women made by chewing boiled manioc root, spitting it out, and letting their saliva ferment it for several days. As a respectful guest, I was compelled to drink the entire, intoxicating bowlful (a cupful would not do). Would it be chunky? Would it be sour? Would I be able to

forget I was drinking another person's spit? Would I be able to wobble back to my hammock? Remembering that *masato* is a sacred brew, a gift to humans from a deity, certainly helped.

Stephen Buhner—author (*Sacred Plant Medicine*), herbalist, and medicine man in his own right—introduces us here to dozens of sacred brews, and to the rich mythical roots of inebriation in many cultures.

He details the old European tradition of fermented herbal brews, which preceded the use of hops as an additive. (Apparently the shift to requiring sleep-inducing hops accompanied the Protestant Reformation, with its dislike of inebriants that could excite a variety of more interesting effects. This ecstasy-limiting attitude led to the first drug law: Put

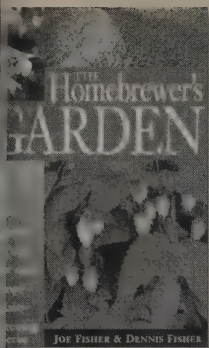
nothing but hops in the beer.) The text is peppered with picturesque tidbits, such as that the saliva from enraged bears was integral to early Finnish grain beer.

Recipes, both traditional and contemporary, accompany each section. Useful appendices include a simple guide to brewing, a resource list, and a compendium of herbs long added to make beers tasty.

—Kathleen Harrison

“The gift of beer throughout myth and oral tradition is firmly connected to both a divine origin and an easing of human pain in the face of mortality. Though the many origin stories of fermentation and the plants associated with it vary from culture to culture, this com-

SUMMER 1999 ❧ WHOLE EARTH



## THE HOMEBREWER'S GARDEN

How to Easily Grow, Prepare, and Use Your Own Hops • Malts • Brewing Herbs

Joe Fisher and Dennis Fisher. 1998; 187 pp. \$14.95. Storey Books.

“Grow Your Own... Brew Your

Own” says the back cover, but *Homebrewer's Garden* has interesting material even for tee-totaling gardeners. Hop plants can serve as unique ornamentals, and this book will give you all you need to propagate and grow them. Much space is devoted to growing forty-five different aromatic, flavoring, and bittering herbs that give unusual tastes to malt beverages. There is a chapter on backyard grain growing, with an emphasis on barley for malting (also briefly covered: amaranth, corn, quinoa, rye, sorghum, spelt, and wheat). The book includes plenty of beer recipes that use homegrown ingredients, as

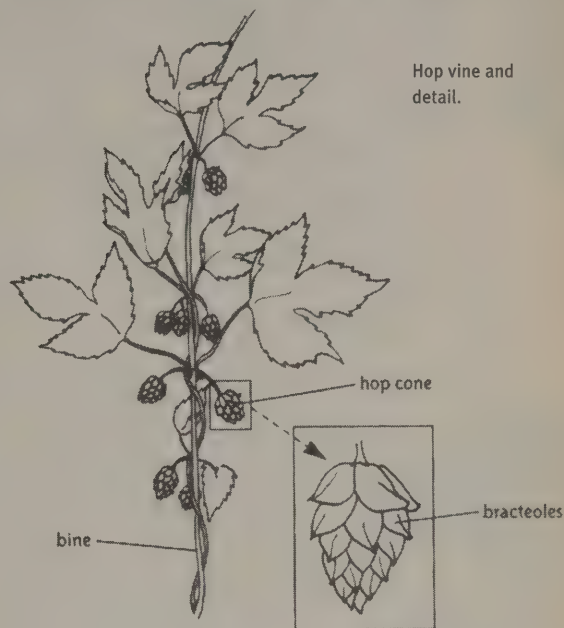
well as a list of suppliers of seeds, plants, hop rhizomes, and homebrewing supplies. —*HortIdeas*.

“Hop cones should be picked at their peak of readiness, which means that you have to pay attention to how they are developing. The most obvious sign of readiness is the development of lupulin glands, small yellow grains clinging to the base of the bracts. A mature hop cone will be heavy with this yellow powder. When you begin to suspect that the hops are nearing maturity, pick a cone and pull or cut it open. The lupulin should be dark yellow-gold, and there should be a strong hop aroma.

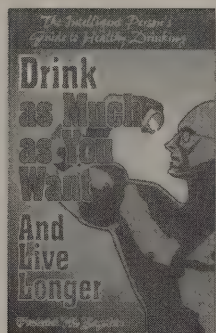
Mature cones feel different from green ones; they are somewhat lighter, and feel drier and more papery. They also give off an aromatic resin that sticks to your hands when you are picking.

When past their prime for picking, hop cones will turn tan along the edges of the bracts and then develop brown spots. Finally, they turn brown and start

to open. Don't use any hops that have turned completely brown; even the tan and spotted ones are not of the highest quality. If you have let them go this long, it's best not to use them in beer.



Hop vine and detail.



## DRINK AS MUCH AS YOU WANT AND LIVE LONGER

The Intelligent Person's Guide to Healthy Drinking  
Frederick M. Beyerlein. 1999; 195 pp. \$14.95 (\$18.45 postpaid). Loompanics Unlimited, PO Box

1197, Port Townsend, WA 98368. 800/380-2230, www.loompanics.com.

The author, a Sacramento nutritionist, believes in a nutritional cure for virtually all the physical ills attributed to alcohol, from hangovers and beer bellies to serious liver damage. Ingest the right “life-force nutrients”—vitamins, minerals, lipotropic factors, protein, water, fiber, and herbs—and you can down prodigious amounts on a regular basis without suffering for it later.

Beyerlein compares his extensive regimen (nutrients to take and comestibles to avoid before, during, and after drinking) to a boxer's preparation and medical treatment. In true Loompanics fashion, he says that he

doesn't mean to encourage drinking, “but if you drink I can teach you to drink healthier.” He makes no claims to alter behavior under the influence (the words “drinking and driving,” one major impediment to a long, healthy life, never appear). No one here has field-tested the book. If any readers do, send us the results. —MKS

“Drinking on an empty stomach allows faster neutralization of alcohol, especially if you drink hard liquor. Higher concentrations of alcohol activate the stomach's neutralizing enzymes that catch alcohol before it sneaks under the stomach lining, and heads for the brain. Food dilutes the concentration of alcohol to a level that does not adequately stimulate these enzymes. Therefore, if you eat right before and during drinking it only serves to slow the rate and not the amount of alcohol to the brain. Drinking on an empty stomach may initially cause alcohol to travel to the brain faster, but the overall amount will be less because more of the alcohol will be neutralized. I believe this is the difference between having a hangover and having a good morning.

mon thread can be found....It is impossible to grasp the nature of our ancestors' relationship with plants and fermentation without understanding that they believed actions of the sacred were at the heart of their world.

### “Ethiopian Tej

Tej is a traditional mead of Ethiopia. Generally it was made from one part honey to four parts water. A little tree bark and roasted barley were added as an inoculum, and it was allowed to ferment for five or six days. Over time this has changed. What follows is how they make it now.

4 pounds honey in the comb  
12 gallons water

3 ounces hops and 1 more gallon water  
olive wood and hops stems

Add 4 pounds honey in the comb to 12 gallons water in a large cooking vessel. Place it over a fire of olive wood and hops stems (this imparts a smokey flavor to the tej). After it comes to a boil, cook it for three hours. Remove from the fire, let cool slightly, and cover with cloths. Keep warm for two or three days. Remove the cloth and remove wax and scum. Add 3 ounces hops boiled in one gallon water, stir and re-cover. (At this point add yeast and nutrient if you do not want a naturally fermented tej). Leave covered to ferment for 8 to 20 days. Strain and drink or bottle.

# city lights

## Lawrence Ferlinghetti's speech as the first poet laureate of San Francisco

Lawrence Ferlinghetti was named the first poet laureate of San Francisco by Mayor Willie Brown in August 1998. His inaugural speech, printed here in slightly edited form, was delivered to an enthusiastic, full house at the San Francisco Main Library in October [for the full text, see the City Lights Web site, [www.citylights.com](http://www.citylights.com)]. In her introduction, city librarian Regina Minudri told a marvelous story about being a "baby librarian" in the fifties, trying to get her library to purchase a banned Henry Miller book. After her request was turned down, she went to City Lights, determined to buy it with her own money to place it in the library. She told Ferlinghetti why she was buying it; it was an expensive book at that time.

Lawrence said that if she would truly put it into the library's collection, he would give it to her, and then did. That says it all.

Lawrence Ferlinghetti today is the author of fourteen books of poems, as well as fiction, translations, plays, and essays. He is also a committed painter, a renowned publisher, and co-proprietor of the irreplaceable City Lights Bookstore, which he co-founded in 1953. His latest book, *A Far Rockaway of the Heart*, just out in paper, is a kind of sequel to his *A Coney Island of the Mind*. That book, first published in the fifties, has been called the best-selling poetry book of all time, pushing the million mark. Along with Michael McClure, David Meltzer, and Gary Snyder, he guest-edited *CoEvolution Quarterly* No. 19, "Journal for the Protection of All Beings." Lawrence Ferlinghetti has created a place to be a poet on this west edge of America, writing in a voice that has particularly inspired the young, setting the stage for generations yet to come.

—adapted from Poetry Flash, November/December 1998.



I certainly was surprised to be named Poet Laureate of this far-out city on the left side of the world, and I gratefully accept, for as I told the Mayor, "How could I refuse?" I'd rather be Poet Laureate of San Francisco than anywhere because this city has always been a poetic center, a frontier for free poetic life, with perhaps more poets and more poetry readers than any city in the world.

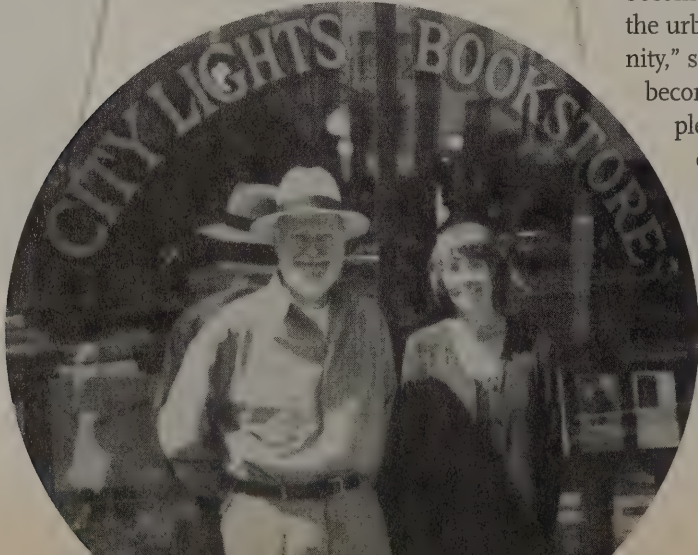
But we are in danger of losing it; in fact, we are in danger of losing much more than that. All that made this City so unique in the first place seems to be going down the tube at an alarming rate.

This week's *Bay Guardian* has the results of a survey that "reveals a city undergoing a radical transformation—from a diverse metropolis that welcomed immigrants and refugees from around the world to a homogeneous, wealthy enclave."

The gap between the rich and the poor in San Francisco increased more than 40 percent in just two years recently. "San Francisco may soon become the first fully gentrified city in America, the urban equivalent of a gated bedroom community," says Daniel Zoll in the *Guardian*. "Now it's becoming almost impossible for a lot of the people who have made this such a world-class city—people who have been the heart and soul of the city for decades—from the fishers and pasta makers and blue-collar workers to the jazz musicians to the beat poets to the hippies to the punks and so many others—to exist here anymore. And when you've lost that part of the city, you've lost San Francisco."



Lawrence Ferlinghetti with Nancy Peters.





And Richard Walker, head of Geography at UC Berkeley, has said, "It means a one-dimensional city, a more conservative city—one that will no longer be a fount of social innovation and rebellion from below. Just another American city, a corporate city—a fate it has resisted for generations."

When I arrived in the City in 1950, I came overland by train and took a ferry from the Oakland mole to the Ferry Building. And San Francisco looked like some Mediterranean port—a small white city, with mostly white buildings—a little like Tunis seen from seaward. I thought perhaps it was Atlantis, risen from the sea. I certainly saw North Beach especially as a poetic place, as poetic as some *quartiers* in Paris, as any place in old Europa, as poetic as any place great poets and painters had found inspiration. And this was the first poem I wrote here...a North Beach scene:

Away above a harborful  
   of caulkless houses  
among the charley noble chimneypots  
   of a rooftop rigged with clotheslines  
a woman pastes up sails  
   upon the wind  
hanging out her morning sheets  
   with wooden pins  
O lovely mammal  
   her nearly naked breasts  
throw taut shadows  
   as she stretches up  
to hang at last the last of her  
   so white washed sins  
but it is wetly amorous  
   and winds itself about her  
clinging to her skin  
   So caught with arms  
   upraised  
she tosses back her head  
   in voiceless laughter  
and in choiceless gesture then  
   shakes out gold hair  
while in the reachless seascape spaces  
   between the blown white shrouds  
stand out the bright steamers  
   to kingdom come

But this past weekend North Beach looked like a theme park, literally overrun by tourists, and kitsch was king.

What happened to it? What makes for a free poetic life? What destroys the poetry of a city?

Automobiles destroy it, and they destroy more than the poetry. All over America, all over Europe in fact, cities and towns are under assault by the automobile, are being literally destroyed by car cul-

ture. But cities are gradually learning that they don't have to let it happen to them. Witness our beautiful new Embarcadero! And in San Francisco right now we have another chance to stop Autogeddon from happening here. Just a few blocks from here, the ugly Central Freeway can be brought down for good if you vote for Proposition E on the November ballot. [Proposition E passed with 53 percent of the vote—*Ed.*]

I could go on until I'm singing to your snores, but I'll mention just one more destroyer: chain stores, or chain gangs. Corporate chain stores wipe out long-established independents, killing off local color, local traditions, and—in the case of bookstores—literary history. I've been to other great cities on poetry tours and found not a single independent bookstore left in neighborhoods where chain gangs have moved in. It's an old story by now, but it's time to revise a lot of old stories! If so much of this City's population doesn't want chain stores, why can't the City government take a united stand against them?

I've proposed that North Beach, with its long literary history including Mark Twain, Jack London, Ina Coolbrith, William Saroyan, and many others, including Beat writers, be officially protected as a "historic district," in the manner of the French Quarter in New Orleans, and thus shielded from commercial destruction such as was suffered by the classic old Montgomery Block building, the most famous literary and artistic structure in the West until it was replaced by the Transamerica Pyramid. I do hope someone will pick up this ball and run with it.

And I've already proposed that a small wooden house on Treasure Island or in the Presidio be made a Poet's Cottage where future laureates might live or work and conduct poetry events or even an annual city poetry festival. The mayor and the important journal *Poetry Flash* are already behind it, so I hope it will happen.

And since we are in the Main Library, let's remember that the center of literate culture in cities has always centered in the great libraries as well as in the great independent bookstores. This library should have ten million dollars a year to spend on books, more than twice as much as presently allotted. It also needs more space, since evidently this new state-of-the-computer postmodern masterpiece doesn't have as much shelf space as the Old Library next door—that classical Carnegie-style library with its great turn-of-the-century murals. I believe the people made a great mistake in passing the proposition to remove the building from the library system. It might not be

San Francisco's Golden Gate Bridge celebrated its 50th anniversary with "Bridgewalk 1987," a commemoration of Pedestrian Day, five decades earlier. Photo from *The Bridge: A Celebration*. James W. Schock, 1997.

too late to reclaim it as a Library Annex, even though the proposition to get rid of it has already been partially implemented. All it would take is another proposition that may soon very well succeed in reversing an earlier misguided vote.

Other outrageous things on my wish list include: One—give bicycles and pedestrians absolute priority over automobiles, and close much of the original inner city to cars, including upper Grant Avenue. Two—make the City a center for low-power alternative radio and TV, with tax breaks for the broadcasters. Three—uncover our City's creeks and rivers again and open up the riparian corridors to the Bay. Four—Paint the Golden Gate Bridge golden. Five—Tilt Coit Tower—think what it did for Pisa!

I'd like to announce that City Lights is just now attempting to create a non-profit foundation so that City Lights may continue through the next century as a literary center and poetic presence in the City. For such a foundation, we need help. Philanthropic literary angels are invited to descend upon us! [For more information, or to contribute, contact City Lights Bookstore, 261 Columbus Avenue, San Francisco, CA 94133. 415/362-8193.]

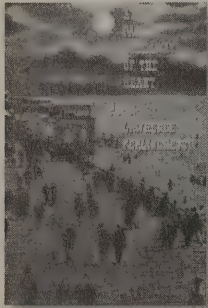
A few years ago I gave a talk in Michael McClure's class at the California College of Arts & Crafts, the title of which was "Why don't you paint something important?" (There was a graffito on the wall that said "You're so minimal.") Anyway, it was an attempt to pry the artists, like the poets, out of their hermetic worlds.

Well, I'm still on the same kick.

Most poets today still exist in a kind of poetry ghetto. They get pittances for published poems, compared to prose writers, even in mass media periodicals, if they manage to get in at all. And poetry readings don't begin to pay the rent for most.

What to do about it? How to get out of the poetry ghetto? The answer is obvious. Write poems that say something supremely original and supremely important, which everyone aches to hear, poetry that cries out to be heard, poetry that's news. And is it naive to think that even the mass media might print it or air it, if it were a new kind of news?

I would like to propose a regular monthly column in a daily newspaper with the title "Poetry As News." [Lawrence now writes "Poetry as News" in the Book Review section of the *San Francisco*



**A FAR ROCKAWAY OF THE HEART**  
Poems by Lawrence Ferlinghetti

Lawrence Ferlinghetti.  
1997; 150 pp. \$10.95.  
New Directions.

*Chronicle—Ed.]* It would begin with great poems of the past that still are news. I think right off of Matthew Arnold's "Dover Beach":

Ah love let us be true  
to one another!  
For we are here as on a darkling plain  
Swept with confused alarms of struggle and flight  
Where ignorant armies clash by night....

I think also of course of Whitman's "I Hear America Singing," of poems by Homer, Shakespeare, W.B. Yeats, Cavafy, Pablo Neruda, Marianne Moore, e.e. cummings, Kenneth Patchen, Kenneth Rexroth, Allen Ginsberg, Adrienne Rich. I think of Bob Dylan's early songs and of the Beatles' "Yellow Submarine," of "The Great Paramita Sutra," and perhaps of the latest rap poetry at the Nuyorican Cafe on the Lower East Side. And I think of the French poet Jacques Prévert whom I translated when I was a student in France:

The Discourse on Peace

Near the end of an extremely important discourse  
the great man of state  
tumbling on a beautiful hollow phrase  
falls over it  
and undone with gaping mouth  
shows his teeth  
and the dental decay of his peaceful reasoning  
exposes the nerve of war  
the delicate question of money

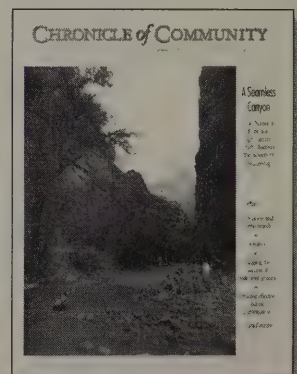
Poetic intuition and the intuitions of great poetry still remain our best medium for fathoming man's fate. ❀

**CHRONICLE OF COMMUNITY**

Don Snow, exec. ed. Published three times a year; no subscription fee, but voluntary contributions are encouraged. Northern Lights Research and Education Institute, 210 North Higgins, Suite 326, Missoula, MT 59802. 406/721-7415, [chronicle@bigsky.net](mailto:chronicle@bigsky.net), [www.BatesInfo.com/chronicle.html](http://www.BatesInfo.com/chronicle.html).

The folks who gave us *Northern Lights* have created a brand new journal dedicated to the ecological, business, grassroots, and political landscape of the American West.

Slower and more contemplative and reflective than our high-energy favorite, *High Country News*, the *Chronicle* emphasizes policy analysis and personal essays. With three issues a year, it gives voice to long-term community potential and change, speaking to the people at the heart of resource stewardship and repair. It includes a healthy dose of access info—something we like a lot. If you live in, work in, or care about the western US, you're represented here. —NP



PAY ON TOP OF  
THE WORLD.



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NOW TO  
WHOLE EARTH  
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Text and Photos by Sudhir Venkatesh

Chicago's Robert Taylor Homes public-housing development is the largest subsidized residential complex in the world. Six of the poorest US census areas with populations above 2,500 are found there. Ninety-five percent of the housing development's 20,000 residents are unemployed and list public assistance as their only income source. And 40 percent of the households are single-parent, female-headed households earning less than \$5,000 per year. Rates of violent crime and gang activity are among the highest in Chicago. The Black Kings and the Sharks (affiliates of major Chicago gang families) and the Black Disciples, Vicelords, Black P. Stone Nation, and Mickey Cobras all roost in the housing development. Its landlord, the Chicago Housing Authority (CHA), has estimated that \$45,000 in drug deals take place daily. Take a casual drive by the housing project: twenty-four drab, sixteen-story concrete high-rises, many blackened with the scars of arson

fire, sit in a narrow two-block by two-mile stretch of slum. The city's neglect shows in littered streets, poorly enforced building codes, and scant commercial or civic amenities.

Despite overwhelmingly depressed conditions, Robert Taylor's 4,300 households lead lives that are as patently "American" as those in Dayton, Ohio or Manhattan's Little Italy or Upper East Side. Some residents, with successful, educated children now living in the American mainstream, have lived in the housing development for thirty-seven years. In many ways, even when gunfire fills the skies and daily life must reorganize in the face of decreased safety, Robert Taylor Homes is as much a community as most American "communities"—or more. Careful, thoughtful, ethical conversations go on; concerns for fairness fill the corridors, fire escapes, and elevators; and the American ideal of building a habitable community is always present. But in the midst of periodic

# Midst the Handguns' Red Glare

PHILANTHROPIC GANGS AND POLICE-TENANT-GANG JUSTICE





gang warfare, residents shape their own sense of “village”—truly a tale of personal courage and collective sharing and supportiveness.

### WHERE THERE ARE NO POLICE

Within three years of its completion in 1962, Robert Taylor had to battle public perception as a den of abnormality. A prominent journalist called it a “woman’s world of fatherless households” and a “death trap [where] the dangerous life is routine.” The news story conveniently passed over the 50 percent of households that were two-parent, employed, and receiving absolutely no government assistance. What readers did not learn from this and other exposés were the efforts—extraordinary, imaginative, and mundane—that households made to adapt to, alter, and combat the harmful effects of gang activity. Media portraits preferred the biased litany: gangs, drugs, crime.

The texture of gang activity has actually changed considerably since the 1960s, when gangs first entered the housing development. At that time, gangs were primarily small bands of street-corner groups, with little active involvement in drug trafficking or gun violence. They were a social nuisance, but under the control of tenants. Mabel Harris, at the 218 State Street building, a longtime tenant activist who moved to the housing development in 1963, has been dealing with gangs for most of her life. “Back then,” she says, “they were just kids who didn’t find nothing for them in schools. There were no jobs, so they would just hang out. They wasn’t shooting nobody, that came later, but they’d fight each other all the time.” Local crime was mostly property theft, domestic abuse,

and interpersonal violence not involving gangs.

Only a few police officers from Chicago’s Second District were specifically assigned to the housing development, and the housing guards placed by the CHA in some buildings had been instructed not to leave the lobby. Even today, it’s impossible for “official” police to respond to each incident, so enterprising residents such as Mabel Harris developed novel cooperative schemes to combat crimes, watch over strangers, and raise the level of security for households. These were the precursors to the highly-touted “community policing” efforts that now saturate contemporary poor neighborhoods.

At the outset, the unofficial boys-in-blue teams were fairly informal. “Mama’s Mafias,” networks of heads-of-households, watched over children so that parents could run errands or go to work. In time, as crime grew more serious, these informal networks changed into formalized organizations of redress and enforcement.

In the 1970s, for example, federal welfare legislation ruled that women could only receive welfare if they did not live with partners and spouses. So men lived as hidden boarders, constantly in fear of the law. Many of these men spent their time in the public spaces outside of apartments in order not to jeopardize the welfare payments of their partners. Tenant leaders put the men to use. They organized “quasi-militias” to locate suspected criminals and domestic abusers. “It was real simple,” explains Tony Telander. “We’d be hanging out and then Mabel or someone else would come running down telling us that so-and-so was hurt or had their apartment robbed. Well, since we was hanging out, we knew all the gossip, knew who did what and where. The women would scare us, tell us that if

we didn't go out and find the guy who did it, then they'd tell the CHA that we was living with our wives. We was scared 'cause they was on aid and we ain't had no jobs. So, we became like a police force, you know, running around finding people that done things wrong and beating them up!"

In addition to militias and Mama's Mafias—two of the most celebrated examples of self-enforcement in Robert Taylor—tenants developed intricate relationships with the police. Many are visible today. When I was staying with Cathy Blanchard's family in 1990, a burglar robbed their apartment. Instead of calling the police immediately, they called the tenant leader in their building, who called a friend on the police force, who in turn sent two local police officers to investigate the robbery. The police worked with tenant leaders and local street-corner men to locate the suspect, determine his guilt, and then return some of the stolen goods. With the exception of police involvement, the tracking down, apprehension, and "trial" of the suspect occurred completely outside the judicial system.

It's not necessarily equal justice for all. The neighbors at the other end of the hallway never received such assistance when they were robbed—in part, because they were in poor standing with the tenant leader. But by creating workable relations with tenant "brokers," police can no longer argue that the housing development is too dangerous to patrol. They can "serve and protect" the community (at least, they can assist those the tenant leaders feel need attention). This tenant-broker-police "teamwork" has been in existence for nearly three decades. Tenants prefer it to no police response at all.

## GANGLAND PHILANTHROPY

The creative "community-policing" and coping strategies of the seventies proved to be good preparation for the new breed of gangs that emerged a decade later. Unlike those of the sixties, the eighties gangs were violent and entrepreneurial. They loitered in public. They sold crack/cocaine, as well as heroin and pot, from lobbies and in abandoned apartments. They routinely harassed tenants who cooperated in police investigations.

By the nineties, they added a twist to their otherwise not-very-attractive behavior: they became community philanthropists, giving money to needy households, sponsoring large dances with free food and drink, and hosting "back-to-school" parties for local children, where they gave away clothing and sneakers. J.T., a high-ranking gang leader, explained his motives: "We ain't angels or nothing, that's true,

but we can do something for folks 'round here who got no one else for them. We give them food, we watch over them, protect the community, we try to give something back, try to better the community."

For families living near or below the poverty line, these outward gestures to "better the community" aren't easy to turn down. Tenant leaders, who themselves possess few resources with which to help other households, can hardly rebuff the gangs' generosity. Much like their creative engagement of police who were not very responsive to community needs, the tenant body has—for better and worse—created complex working relationships with gang members.

## THE PERVERSE SYMBIOSIS

"Gang wars" erupt three or four times a year, beginning in spring. Prolonged gunfire—usually drive-by shootings—commonly occurs near schools and play areas. Not surprisingly, residents will not allow their children to walk the short distance to school. Lacking day care, many adults cannot leave the house for work or even short trips to the grocery store. The pace of the community comes to a debilitating halt.

Since 1990, a perverse symbiotic relationship has evolved between gangs and residents. Gang wars trigger an odd convergence of self-interests and a strange form of cooperation. Residents want to quell gang-related fighting in order to restore community safety, and gang leaders want the same result so they can reduce police presence and return to narcotics trafficking. Even as the sounds of handguns or an occasional rifle or grenade resonate through the housing development, tenant leaders and community activists begin the long process of restoring stability and rebuilding their communities.

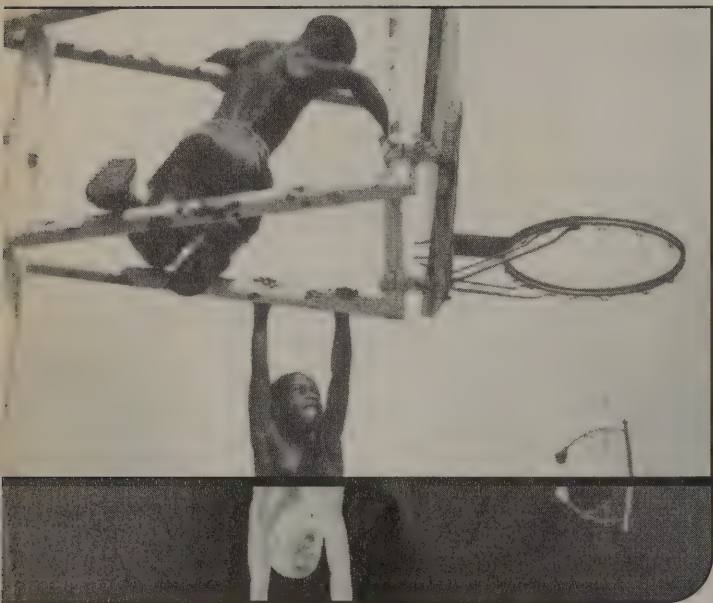
In an eerie, regimented pattern, tenants begin by providing immediate assistance to one another during the three to seven days of shooting. Then, the "second act": an extended period of conflict mediation and resolution. It first involves investigative questioning by local police officers, then public forums for tenants to express to law-enforcement officers their displeasure over the public-safety lapses, and finally "backdoor" negotiations between gang leaders and select community spokespersons such as Mabel Harris and John Williamson, the director of a local social-service agency who has influence with gang members. The third act is a period of catharsis and renewal, when tenants meet with friends and return to their normal routines.

Each of the three acts of the "script" is crucial to rebuilding social relationships in the housing

development. However, the secretive negotiations between gang leaders and community leaders are popularly regarded as the most important means available for tenants to end gang-related conflicts and restore public safety. Few persons actually expect an end to gang violence, but the private dialogues have been quite successful in creating a détente between the gangs.

## COMMUNITY COURTS

In the early 1990s, tenants developed another method to address the conflicts between the gangs. Mabel Harris and John Williamson formed a jury of peers, a “community court” that included themselves and two older, ex-gang leaders. Several times



each month, tenants relayed to this adjudicative body incidents by gang members who had harassed residents or committed domestic abuse or other acts considered criminal. Instead of immediately resorting to physical or armed conflict, the gang leaders from warring families narrated and attempted to resolve their own disputes in front of this body.

Tenant leader Edith Huddle and the other jurors then deliberated over the reported infractions and meted out punishments accordingly. Typically, they assigned monetary redress or commanded apologies from gang members. In separate closed-door meetings, the gang leaders inflicted physical punishment and imposed their own monetary fines on their members.

Tenants passionately debated this new “community court.” Some expressed outright disgust

that gang members could switch roles and become their own police, lawyers, and enforcers of punishment. Dissenters argued that the housing development was in a state of emergency and should use any resource available. Since gangs were already deeply entrenched in local affairs via their philanthropy, many believed that any realistic attempt at mediation had to include them.

Navigating through the opinions has been immensely difficult for tenant leaders. They vested the gangs with authority and legitimacy at a time when residents were angry, frustrated, and becoming intolerant of the gangs’ growing influence. Some tenants openly criticized their leaders’ decisions to appoint ex-gang leaders to the “community court” and to accept the gangs’ offers to fund clothing drives for local school-children. Edith Huddle, who has worked tirelessly for nearly forty years on behalf of her community, is not averse to criticism, but she had failing patience for tenants’ hesitant posture toward the novel community courts. “They keep making me explain everything!” she cried in response to tenant complaints of her leadership. “They just have to trust what I do. I’m on their side and they think I’m the enemy or something. Isn’t that what leaders are supposed to do? We’re supposed to find ways to fix their problems.” The answer to her question not only depends on whom you ask, but the same tenant will be of mixed opinion, favoring the outcome of the “community court” but harboring disdain for the legitimacy afforded the gangs. In a world of limited governmental services, where police are a rare sight and the city no longer seems to care for tenants’ needs, it is difficult to feel otherwise.

## DESTROY OR RESTORE?

Robert Taylor Homes nears its fortieth anniversary. It soon may be no more. Congress recently passed stiff legislation requiring that all local housing authorities conduct “viability” studies of their large complexes and determine whether it would be fiscally prudent to destroy them or rehabilitate and modernize the structures. In a controversial evaluation, the Chicago Housing Authority has forcefully claimed that destruction is the better alternative. To date, four of the buildings have been destroyed and most of the remaining twenty-four are expected to fall within a decade. Public-policy experts, journalists, and academics all have expressed their support for the demolition. Those who oppose destroying



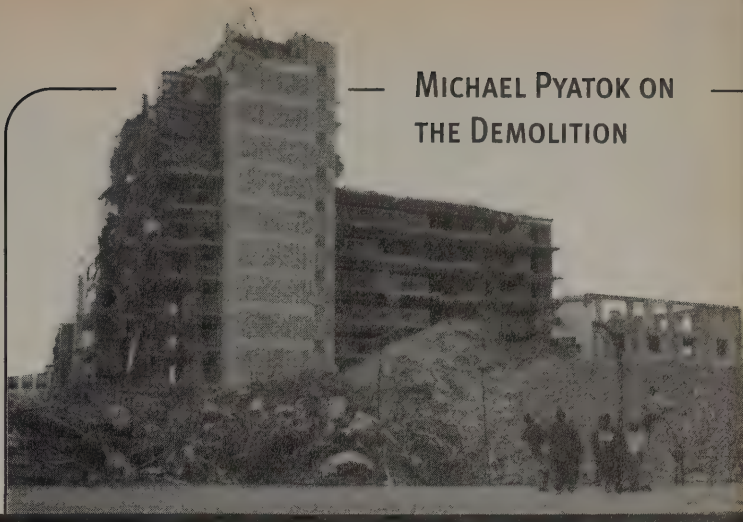
the housing development argue that replacement housing should be guaranteed before the high-rises meet wrecking balls. Since Congress has also discarded the “one-for-one” replacement rule, we should not expect that the failure to relocate families in decent, affordable shelter will hinder the demolition of Robert Taylor.

Robert Taylor Homes isn't meeting its fate because of any inherent flaw in public-housing design. As recently as the late 1980s, the CHA's engineers said the housing development would last “as long as the Empire State Building,” if maintained properly. If we want to understand how once-vibrant communities like Robert Taylor fall into the dustbin of liberal state policies, we need to look instead at the changes in our nation's economy and the retrenchment of our federal government in the last two decades. After 1980, the CHA's budget was slashed by 87 percent. Drastic urban job loss turned a mixed-income community into an entrenched underclass population with little hope of social reintegration. Where once gangs and drugs were under the restraint of tenants, they have flourished in a context of hardship and national neglect.

I rarely meet people who support the continuation of Chicago's high-rise developments. If the polls are any indication, most Americans have a rabid desire to end any national commitment to housing our poor and needy. Our contemporary inner cities are considered deviations from the national culture, not examples of it. It is not far from the truth to say that we tend to see inner-city communities as precisely un-American, i.e., filled with people unwilling to work and unwilling to live like those in the mainstream. Many truly believe it would be better for all, including the housing-project residents, to have their homes demolished. Little thought or sympathy is felt for the displacement of the urban poor onto the homeless rolls or to even more-marginal housing. As we watch the buildings fall, let us remember the community not only for its bleak “deviant” problems, but for its all-American aspirations to organize a habitable community, and for the accomplishments of all its members, even gang members, in supporting its commowearth. ❀

Sudhir spent seven years hanging out in the Robert Taylor Homes housing project. It was a big switch from his interest in the urban poor as studied by statistical surveys. He's been interested in the “enemy within”—when the gang members are also children, nephews, nieces, and friends. He's just been made Assistant Professor of Sociology at Columbia. His book, *American Project: Gang and Community in Chicago's Public Housing*, will be published in autumn 2000.

## MICHAEL PYATOK ON THE DEMOLITION

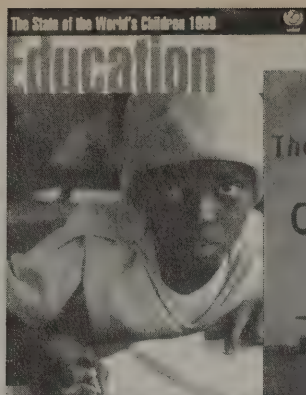


On the one hand, high-rises work fine; there's nothing wrong with them. There are plenty of income groups—low, middle, and high—who live in high-rises without a problem. I'd say the middle- and upper-income groups have less of a problem with these structures because there are many more adults and fewer children per household. In the lower-income families, you have fewer adults and more children, so there's less supervision; and corridors, fire escapes, and elevators are like toys in playland for all these kids. Dealers can move in more easily with unsupervised kids, and before you know it, you're in trouble. So, yes, to some extent, high-rise living is not great for low-income families. Another model is needed; more ground-related walk-up housing or town homes are a better solution.

Just from the standpoint of the environment, there is an enormous amount of energy embodied in any one of those buildings—what it took to build them, what it took to procure those materials, transform them into building materials; all the human labor and energy it took to erect them. And then to throw them away...They just become landfill. It's a tragic loss. The housing authorities around the country are being fueled by this program called “Hope Six,” which HUD created to help convert a lot of the older housing projects into mixed-income communities. There are several problems with this program. One is that they started out thinking that the physical plant is as much to blame as anything else, so if you tear it down and rebuild it and redesign it, you'll get a better place. That's not true, really. A lot of those older places needed some modifications, but not total tear-down. Then, in the process of trying to get the income mix, they have to give vouchers to about half the existing low-income tenants and send them out on the four winds to fend for themselves, so they can make room for the moderate- and middle-income tenants in the new mix. We're losing almost 100,000 units of permanently affordable low-income housing through this transformation process across the country; modest housing we'll probably never regain, given the attitudes of Congress.

At least, with Hope Six, they were clever enough to realize that if they hired good architects, and put “better clothing” on this architecture, on this housing—made it appeal to more-mainstream Americans' attitudes of what domestic architecture is supposed to look like and feel like (the small-town streetscapes of America)—that it would be not only more digestible by the communities that surround them, but more attractive and alluring to the moderate- and middle-income tenants they're trying to capture as part of the new mix. So it comes in handsome clothing, but 50 percent of those former tenants are out in the wind, and research shows that they end up in housing that's equally bad somewhere else in the private market.

See our interview with Michael Pyatok, page 28.



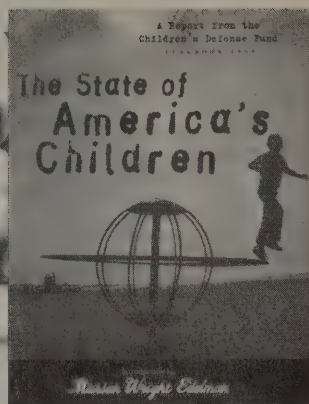
## THE STATE OF THE WORLD'S CHILDREN 1999

Carol Bellamy. 1999; 131 pp. \$12.95 (\$17.95 postpaid). UNICEF/United Nations Publications, Sales and Marketing Section, Room DC2-853, Dept. 1004, New York, NY 10017. 800/253-9646, 212/963-8302, [www.un.org/Pubs/](http://www.un.org/Pubs/). Electronic version available at [www.unicef.org/sowc99/](http://www.unicef.org/sowc99/).

## THE STATE OF AMERICA'S CHILDREN

A Report from the Children's Defense Fund: Yearbook 1998  
1998; 130 pp. \$16. Beacon Press.

The message of these latest editions of



annual reports from UNICEF and the Children's Defense Fund is predictably sobering—children here and throughout the world are still poor, underfed, and abused in appalling numbers—but there are glints of silver lining here and there. (In the US, e.g., infant mortality is at its lowest level ever, and more than three-

fourths of two-year-olds are now fully vaccinated, up from just over half in 1992.)

The UNICEF pub is full of glossy photos, trendy layouts, and boilerplate prose, worth skipping to get to the statistical tables in Part II. The Children's Defense Fund's volume is just the facts, graphs, and text with spare and shrewd commentary.

This year's UNICEF report focuses on education. Promising experiments in Thailand, Egypt, India, Congo, and elsewhere get glowing reviews, with less encouraging news from Eastern Europe, sub-Saharan Africa, and the Caribbean. We get the impression that talented bureaucrats are working on this dis-

parity, developing an "Educational Revolution" (a chapter title). But the statistics in the back make these hopeful signs look like candles in a hurricane.

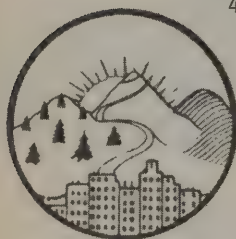
The Children's Defense Fund plays no such games. On almost every page, a "Facts & Figures" box confronts us with hard, specific truths. "One in five American children lives in poverty. Poor children numbered almost 14.5 million in 1996....Among young families (headed by a parent under 30), median income plunged 33 percent between 1973 and 1994....Since 1985 the richest 5 percent of American families have received a larger share of the nation's income than the poorest 40 percent." And on and on.

*The State of America's Children* is keen and fair when analyzing government efforts to deal with such problems. We learn that Workfare does nothing to enhance the lives of children, and that Congress's new child tax credit (\$400 per child) mostly benefits the middle class, leaving out twenty million kids whose parents don't earn enough to have a tax liability. On the upside, we find out that fewer children died by gunfire in the last two years (still a shocking fourteen a day) and teenage pregnancies out of wedlock have dropped.

It's all here, box after chart after graph: a tough read, but made more accessible by the

## KIDS TO THE COUNTRY

Plenty International, PO Box 394, Summertown, TN 38483. 931/964-4864, [plenty1@usit.net](mailto:plenty1@usit.net), [www.plenty.org](http://www.plenty.org).



Plenty International emerged in 1974 out of The Farm—an intentional community of one hundred families in rural Tennessee that perceived a need for an alternative, nonprofit vehicle to encourage cultural and developmental partnership. Plenty, now an NGO associated with the UN's Department of Public Information, operates exchange programs for oppressed or impoverished communities around the world, in which appropriate technologies, skills, and resources are traded among folks of like needs.

Kids to the Country is a New Yorker by birth. Its first tour of duty ended in the Bronx when conditions improved enough for Plenty to withdraw the project. But vulnerable children—the kids of homelessness, poverty, domestic violence, and neglect—are everywhere, and in 1986 KTC was resurrected in Nashville, Tennessee. On 1,750 rural acres operated by The Farm, in Lewis County, youngsters whose daily lives may be "marked by broken glass and broken



dreams" are given a chance to experience the world through new eyes.

Through partnerships with local and regional community organizations, Kids to the Country identifies at-risk children six to twelve years old, from Nashville and middle Tennessee projects, shelters, and refugee centers, and offers them a break. In five-week summer sessions kids are introduced to the natural world, redefining the concepts of acceptance and choice in the safety of a fiercely devoted staff.

Organic gardening, water sports, riding, star gazing, performing arts, storytelling, conflict resolution...KTC's sense is that versatility breeds versatility. Much of the staff is female, providing role models for attending girls who may not be used to women in leadership positions. Activities are heavily biased: everything about KTC aims to build esteem, confidence, and cooperation among

children who may have had to fight their whole young lives for recognition—or survival.

Five weeks is awfully finite. So as not to lose touch with these kids, KTC runs an annual Kwanzaa and gift-making program; the Reunion Urban Gardens Project; and periodic special events in Nashville. For kids who've outgrown the summer program, KTC is inviting some young teens, past participants, to train as apprentice counselors for the summer.

Maybe a child conquers timidity on his first horseback ride, or looks at the earth with fresh, compassionate eyes, or learns that conflict doesn't have to equal hurt. The idea is that these kids take home an alternative template for living under dire conditions. Can't beat that.

—NP (suggested by *HortIdeas*)

## THE FUTURE OF CHILDREN

Richard E. Behrman, ed. *Free/controlled distribution (3 issues/yr.)*. The David and Lucille Packard Foundation, 300 Second Street, Suite 200, Los Altos, CA 94022. 650/948-7658, [www.futureofchildren.org](http://www.futureofchildren.org).

This journal takes on substantive top-

ics (health care, abuse, poverty, adoption, etc.) related to children's well-being. It addresses those who can do something about it (policy makers, practitioners, executives) more than those who are done unto, but the writing is accessible and issues are viewable on the Web.

Right: Small steps for big change: an urban youngster breaks new ground with the beaming help of a Kids to the Country counselor.

editors' decision to stand back and let the facts work us over. —Will Baker

“In Andhra Pradesh, India's fifth largest state, 75 villages are child labour-free because their children are enrolled in school, due in large part to the efforts of the M. Venkatarangaiya Foundation (MVF) over the past seven years. From the inception of the programme in 1991, MVF efforts have been guided by two interrelated objectives: No child shall go to work; all children shall go to school.

The MVF programme began in five villages by enrolling 16 children, all girls, in school. By 1998, more than 80,000 children, 5 to 14 years old, boys and girls alike, from 500 villages were enrolled by MVF in government-run schools throughout the Ranga Reddy district. —THE STATE OF THE WORLD'S CHILDREN

“In 1996, 3.1 million children were reported abused or neglected, and the reports were substantiated for at least 969,000.

• Eighty percent of the child welfare cases served in 1994 involved allegations

of abuse or neglect, compared with 45 percent in 1977.

• An estimated 40 to 80 percent of the families who become child protective service cases have problems with alcohol or drugs.

—THE STATE OF AMERICA'S CHILDREN

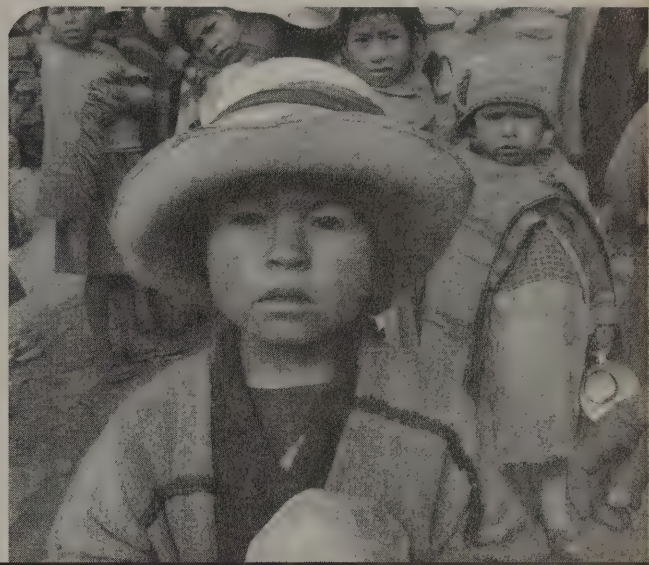
Clockwise from top right:

Compelled to adopt a second language, little girls attend English class in Pakistan.

A fight for proper nutrition: a young Bolivian holds a piece of bread.

A mathematics class in Benin.

(All from *The State of the World's Children*.)



## MAYBE ONE

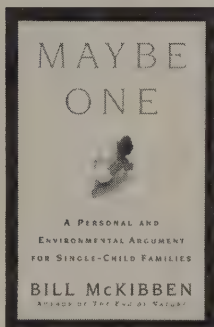
A Personal and Environmental Argument for Single-Child Families

Bill McKibben. 1998; 254 pp. \$23. Simon & Schuster.

*Maybe One* is an answer to the question: How many children should any of us have—especially in industrialized nations?

Understanding full well what a colossal and contentious issue he has engaged, McKibben emphasizes the title's “maybe.” He details his own doubts over choosing to have just one child, and scrupulously avoids polemics or sermonizing in recommending that choice to others. He anticipates concerns about the implications of smaller families—for example, accelerating the population's aging, with fewer younger workers supporting services for more retirees.

This approach is complemented by a dry, self-deprecating wit. The resulting blend of autobiography, argument, and anecdote is a welcome relief from most of the doom-sayers and airy dismissers who write about population. (To evaluate the myth that “onlies” are odd, McKibben offers a list: Elvis Presley, Leonardo da Vinci, Nancy Reagan, Robin Williams, Joe Montana, John Updike, Charles



Lindbergh, Lauren Bacall, and Jean-Paul Sartre. Case closed—or opened?)

All the same, McKibben has a strong, deeply felt position, expressed mainly through a concise but sophisticated review of the most striking and up-to-date information on population growth's impact on the environment, economy, and human species. He reminds us that the increase in the world's population since 1950 exceeds the total for the preceding four million

years; that we steadily increase energy consumption in spite of all the hoopla about electric cars and recycling; that his four-year-old daughter “has already used more stuff, added more waste to the environment, than most of the world's residents in a lifetime.”

So what can we do? McKibben asks us firmly and tactfully to consider this proposition: “No decision any of us makes will have more effect on the world (and on our lives) than whether to bear another child.” —WB

“Someone once tried to calculate the amount of energy we used each day. In hunter-gatherer times, it was about 2,500 calories, all of it food we—yes—hunted or gathered. That is the energy equivalent of the daily intake of a common dolphin. Modern human beings use

31,000 calories apiece, most of it in the form of fossil fuel. That's the equivalent of a pilot whale. And the average American uses six times as much as that—as much as a sperm whale.

“To stabilize the ratio of retirees to workers, U.S. fertility would have to surge to a rate of three births per woman or higher. Not only is that unlikely to happen, it also would produce a population the size of China's within a few generations. It's not realistic.

“You may well ask, “Why have any children at all?” Wouldn't it be better still to have none?...What eventually made up our minds was largely simple desire; like most, though certainly not all, people we felt some need deeper than deep to raise and nurture a child. Anything else may simply be justification. But we also sensed something that I've been trying to say throughout this book: that our lifetime actually did fall at a special moment, and not just for the physical reasons I've already discussed....Though dark in many ways, it's not a hopeless world our Sophie was born into. It's not a guaranteed world, either—it's poised somewhere in between.



# ELEGANT

## Mayor Jerry Brown on a Sustainable Oakland

*These remarks are drawn from Oakland Mayor Jerry Brown's breakfast speech on Sustainable Development at the General Assembly of the Association of Bay Area Governments (ABAG) in April. He's confronted by post-industrial America—crumbling schools, neighborhoods with crime and double-digit unemployment rates, and a suspect police force. He wants to create construction jobs and stimulate the retail and entertainment sectors. He's trying to bring 10,000 people to live downtown. He's trying not to overwhelm these areas with too much new traffic or turn downtown Oakland into a gentrified hub at the expense of low-income residents. Hardcore sustainability trying to navigate between ideals and the zen of nitty-gritty practice. —PW*

From a market point of view, one of the most dangerous possibilities in contemporary cities would be if the majority of people had deeply satisfying relationships. If people actually enjoyed one another's company, that would be devastating to shopping. So one of the driving forces here is the increasing neurosis that pushes the market to ever-higher levels. Marshall McLuhan once explained this to me: he said the bad news of reality paves the way for the good news of advertising. You look at the newspaper today and you see all the bad news of reality, and you look at the advertisements, and they're good. They make you feel warm and fuzzy, a very pleasant experience compared to the news. All that underwear stuff they put in the *[San Francisco] Chronicle*. The white sale. It's designed that way. And it's not sustainable.

So what we're looking at is not only a technical fix but an attitudinal shift. That shift is not going to come from meetings like this. And if you think that politics is some way to change that, you have to understand that politics is inside the market. At the moment, there's no ringing alternative to the fundamental principle of "return on investment." In fact, President Clinton was quoted after his first year in office as saying, "If I could come back and be reincarnated, I'd like to come back as the bond market." He had had to back off on invest-in-people projects, because the bond market didn't like that. When the G-7 nations get together, they don't talk about political philosophy, they don't talk about social justice, and they don't talk about sustainability in any honest way. They talk about opening up markets and

reducing various barriers to the accelerated flow of stuff across national borders.

That's the big picture on sustainability, and it's the reason why I don't like to use the word any more, because I think it's not very honest.

### POTHoles AND CONVIVIALITY

Now, down in Oakland, where we're practical, we're dealing with potholes. I want to tell you why I'm so focused on potholes. They're small, they're physical, people don't like them. And you can eliminate them in a short period of time. They're much easier to deal with than what I was just talking about. That's why I've become the biggest champion of pothole removal. I am interested in down-to-earth stuff, like more policemen on the streets, fewer potholes to drive over.

I'm trying to do things that will, at least indirectly, deal with the issue of sustainability. That's why I've said let's have some density. Instead of having a vision of Pleasanton [a local suburb], we could have a vision of Manhattan. In fact, at one meeting, I said, "Think Hong Kong." That's come back to me with some derision.

People don't like that, because they like space. So I've tried to create an image that would make it more acceptable. I call it "elegant density." Have you ever tried to go from one side of Manhattan to another? That's "elegant density." People are close to one another. You have time in your car. You're not going to get there in five minutes, so you can enjoy having a conversation with the person with you. You have to enjoy where you are. It is a lot of people, and it is alive and there is culture and art, and yes, there is money and investment. It's a hell of a civilization. I don't know how sustainable it is, but it is active.

My vision of downtown Oakland is to go beyond the bureaucratic monoculture. We have a tremendous investment in the federal, state, county, and city buildings and we have a wonderful, beautiful plaza. Now we've got to get some people there. After six o'clock, everyone's on the road. Our City Center is a great place, but on Saturday and Sunday, there are more pigeons and seagulls than people. I want to convert some of those office buildings and get more people living there.

# DENSITIES

Then you get cafes. We have a nice brick building next to City Hall. We just came through a hell of a fight because the person taking the building wanted to have all offices; finally I got the first floor reserved for an Italian cafe. So when they put some tables out there, we can have a glass of wine in the afternoon when this worrying about sustainability becomes too intense, and we can trade some conviviality. And that is root central to sustainability. The most important thing you can do for sustainability is to improve the quality of your relationships. So you don't spend so much time creating pollution. Create love. Create joy.

We are looking to the private sector to invest downtown. So we have to reduce crime. People aren't going to put up their good money if they feel they're going to get mugged or their cars are going to get broken into. If you're going to have a real city, you need people of all ages. If you need people with families, you need good schools.

The suburbs are cheaper, cleaner, safer, and they have better schools. The city has to trump that, and it can do so with culture, accessibility, and a flow of human activity that is ultimately more satisfying and fulfilling. And I believe that having people live closer to where they work will begin to illustrate a different form of development. The problem is, of course, even *that* development is opposed by everybody. There is no project in Oakland that hasn't been opposed.

I believe revivifying, restoring life to the core areas of our cities, is crucial. And of course, the final part of that is people getting along together. Division by race and ethnicity and tradition and income level is very powerful. I would say the social, human barriers are even greater than the ecological. They're all implicated in urban living, and that's why the city is such an exciting place to be and why, whatever is going on in Washington or Sacramento, it's the urban space that determines where America and the world are going.

## BRINGING IT HOME

[An audience member asks whether it's possible to focus on local problems without losing sight of issues such as global warming and the militarization of the national budget.]

Well, tell me how you're going to impact the global climate, because I'd really like to know that. A lot of people think that if they listen to KPFA [a Berkeley pro-

gressive radio station], they can affect the global climate. People read the *New York Times*, which basically prints news over which we have no control, but it still appears to be more interesting than the *Oakland Tribune*. I canceled my subscription to the *New York Times* when I started running for mayor, and started subscribing to the *Tribune*.

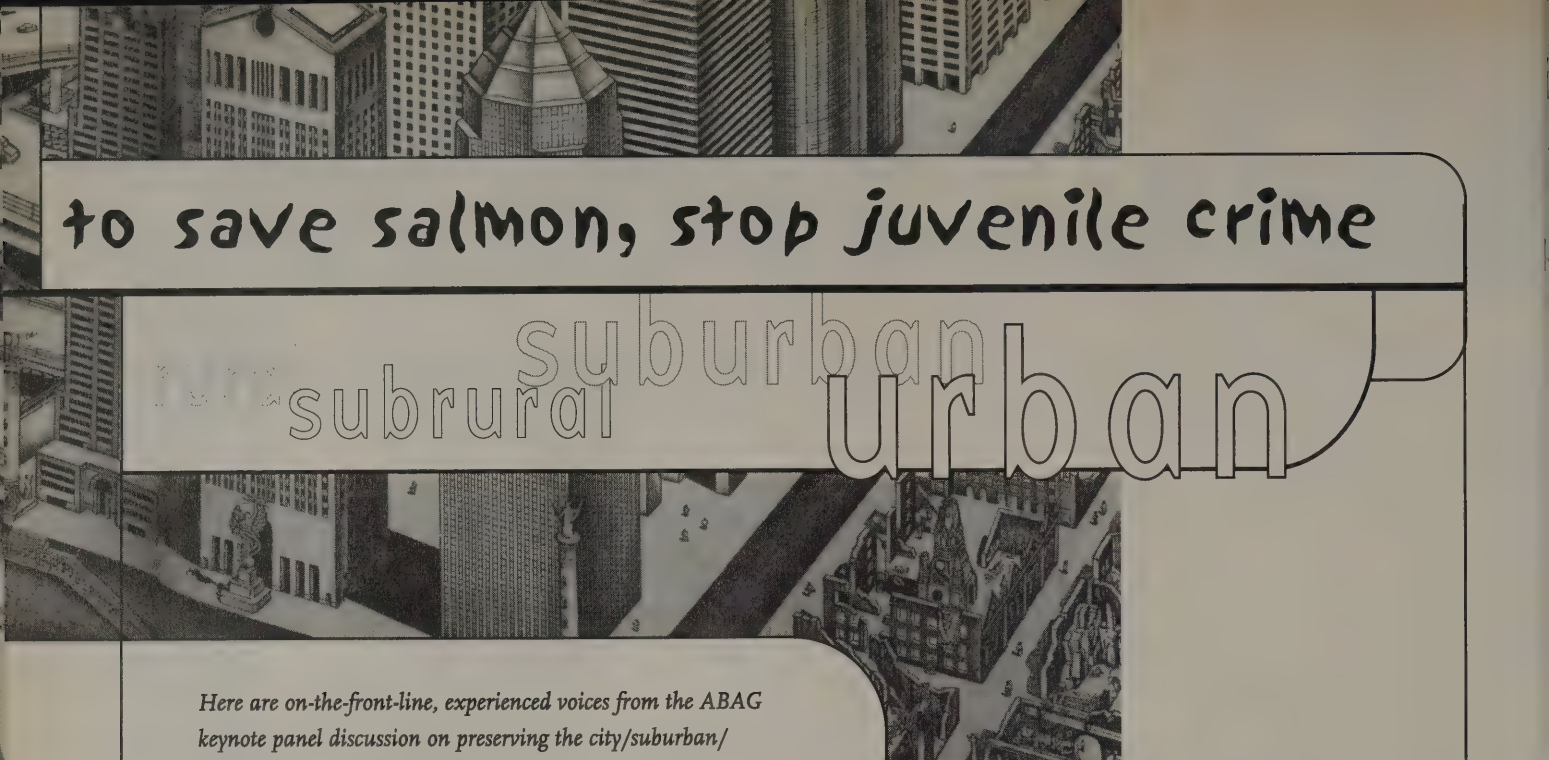
It's very satisfying to read about stuff that's five thousand miles away. It's a hell of a lot harder to deal with the fact that in McClymonds High School, the reading performance is miserable. Dealing with racial division, school improvement, friendly streets, and a beautiful, interesting downtown and an interesting city—that is big stuff. It's not that easy—making an urban school district improve, dealing with welfare-to-work. But we can have some impact on that. If you want to have study groups about Serbia, I think that's good. But I don't think you can have an impact. The big leverage point for us as human beings is to deal with what is within our grasp, and that is what's closest in hand. So I think ABAG is more important than NATO right now.

So I will conclude with this: sustainability is a serious thought, but you have to dissect it to understand its full ramifications. There is no plan of sustainability on the table at ABAG, or probably anywhere else in political circles.

You're not going to escape from "sustainability," but we're making very little impact at this point. We need some ABAG indicators. Pick ten things. How many miles are driven in the Bay Area? We ought to know that. Then could we say let's move it down 3 percent? How many pollutants are there? Kids living near the freeway have more incidents of asthma. That's real; and most of it's low-income. Could we have a collective indicator that says that we in Oakland, or Alameda, San Francisco, Sonoma, or wherever, are driving this much; next year we want to hold it steady or reduce it by a half point? That's not happening. We're just expanding and we have no benchmarks to judge how we're doing. I think ABAG has a very important role. ❁



**DIALOGUES**  
Jerry Brown. 1998;  
309 pp. \$14.95.  
Berkeley Hills Books.



# to save salmon, stop juvenile crime

suburban  
subrural urban

*Here are on-the-front-line, experienced voices from the ABAG keynote panel discussion on preserving the city/suburban/rural balance. Angelo Siracusa, past chair of the Bay Area Council, moderated. We are grateful to ABAG and the cosponsoring Commonwealth Club for their help and permission to print portions of this discussion and Jerry Brown's talk. —PW*

**R**ichard Conlin (Seattle City Council): Washington has a state Growth Management Act that establishes an urban growth boundary. We intend to keep our rural lands, forests, farms, and wilderness areas beyond that boundary. Within it, we are encouraging new development, a place for new people to settle. Some of these are people coming into the area; some of them are our children and grandchildren.

The problem is that the urban growth boundary is essentially negative: "You can't develop beyond this line." We've tried to turn that around and create a positive strategy. We feel the urban growth boundary will be broken if we are not able to find ways to encourage people to live within it.

Our strategy, "Towards A Sustainable Seattle," is built around creating what we call urban villages or urban centers—communities dense enough to be walkable, with employment, recreation, and housing together. They are designed to be connected by a light-rail system that we are beginning to construct, as well as by excellent bus service. We expect to absorb 50–60,000 households into the city over a twenty-year period, approximately a quarter of which we intend to locate in our downtown area. Our mayor describes our strategy as "growing with grace." We're trying to imagine ways to help people build the kind of communities that they would like to have if they choose to live in the city.

PERFECT ORDER, NANCY WOLF (1988). COURTESY OF MARSHA MATEYKA GALLERY.

A lot of people were fearful of this strategy. They didn't know what it meant for their communities and neighborhoods. There was significant opposition when it was first proposed.

The city responded by turning back to the people and saying, "We have this problem, this strategy, this idea. We want you to be engaged in making the strategy work." We commissioned a planning program covering thirty-seven neighborhoods (about 65 percent of the city's population); all the neighborhoods with significant potential for additional numbers of units. Over the last four years, 20,000 people have been involved in a neighborhood planning process, which we supported with organizers as well as with funds to each group to hire consultants and build a plan on their own.

Every single neighborhood has accepted the amount of growth we projected they would have to take. All of them have come in with specific plans to make their neighborhoods not only as good as they are now, but even better with the additional units they will be taking. Each lays out a plan with recommendations to the city for open space, housing options, human services, public safety.

The challenge now is how we are actually going to make it happen. We got our first answer last November when the citizens, by a 72-percent margin, voted to tax themselves \$200 million to totally rebuild our library system. That included twenty-six branches that are responses to the neighborhood plans or have been vetted through the neighborhood plans so that people know exactly—have told us exactly—what they want to have.

City leaders have to help people see the connections. We're facing an Endangered Species Act problem in our area, with salmon—the symbol of the Northwest, integral to our environment, economy, and social system—now listed as an endangered species. If we're going to preserve salmon, we have to take care of their habitat. One way to take care of their habitat is to prevent juvenile crime.

How do we make that connection? People want to build houses outside the urban growth boundary because they think that's where they can have good space for their kids, good schools, safe environments. We believe we can create those things in the city. And we're asking people to come back into the city and recognize they can have those things along with something special in terms of communities, neighborhoods, and civic participation that they can't get sprawling out in a suburb.

**Vera Katz (Mayor of Portland):**

Portland's story began as early as 1972 when then-Governor Tom McCall told both farmers and environmentalists that if they didn't do something to save their farms and forest land, Oregon would turn into a hussy. We passed a state-mandated land-use policy requiring all cities of over 2,500 to plan and control their growth.

Portland's voters created the only elected regional government in the country; this regional government sets out the rules and the regulations for growth. However, we in Portland have made a commitment to take our fair share of the growth coming into the region—to capture about 20 percent of the anticipated 750,000 people coming into the region in the next twenty years. That means about 70,000 additional housing units and 150,000 net new jobs. So, we have to adopt minimum housing densities and maximum parking ratios, to use land more efficiently and to reduce dependence on the automobile. We set transportation goals for the next twenty years: 10-percent reductions in vehicle miles and parking spaces per capita. And we want to make sure that our schools are the best schools in America so we will have a workforce for our targeted industries.

We lost population like every other

city in the sixties. Only in the nineties did we get population and jobs coming back into the city. One of the reasons that happened is that we had urban growth boundaries and a regional government, and we couldn't sprawl out into the suburbs.

Now, the key to our success is that we never forgot the importance of both downtown and neighborhoods. It was important to designate transportation corridors, regional centers, town centers, and main streets. Our motto is: If you get up Sunday morning and find out that you do not have orange juice, and you have to get into the car to get it, we haven't done our job.

We have tiny, 200-foot blocks in our neighborhoods

TEMPLE FOLLY, NANCY WOLF (1998). COURTESY OF MARSHA MATEYKA GALLERY.



## Cities Work Out the Balance

with Vera Katz, Mayor of Portland, Oregon  
Richard Conlin, Seattle City Council  
Margie Matthews, San Jose City Council

and downtown; very walkable. There are no blank faces on any buildings. Buildings have to be built out to the sidewalk. We have very strong design standards and design review. We focus on light-rail and streetcar corridors to build the investment for higher-density affordable housing.

Can we keep the community supporting the urban growth boundary, or are they so afraid we aren't going to grow gracefully that they're willing to extend the urban growth boundaries into the farmland and forestland? Can we maintain steady growth and economic vitality as we deal with an endangered-species listing, as well as a polluted Portland harbor and a polluted Willamette River that—thank goodness—we are required to clean up? If we don't do all of those things, the region and eventually the suburbs will suffer as well.

**Margie Matthews (San Jose City Council):**

San Jose is the oldest city in California, but in many ways it's one of the youngest cities in the nation because it's grown very rapidly over the last thirty years. About 900,000 people, more than half the population of Santa Clara County, live in San Jose.

Almost from the start thirty years ago, when housing was cheap, thousands of families came to San Jose, and city leaders were faced with sprawl. We have been growing and dealing with growth at the same time for all of these thirty years.

In 1970, San Jose established its first urban growth boundary, which has remained essentially

unchanged. One advantage we might have in our valley is that we *are* a valley, so there are geographical limits to our growth. I don't want to sit up here and brag too much, because we went all the way out on the valley floor, along with the county's other fourteen cities. But now we're up against beautiful foothills and a wonderful bay, and we are saying we're not going to develop that land; we're not going to go up the hillsides and go into the bay. We have a riparian corridor policy. We're trying to protect the

creeks that run through the valley. Buildings, for example, cannot be placed within 100 feet of the creeks.

We had a very severe jobs/housing imbalance for many years, with most of the people living in our city and most of the jobs elsewhere. You can imagine how hard it was to get the revenue for services—police, fire, and libraries. So we utilized our redevelopment agency and changed many acres of land to industrial usage, and now there are 2,400 high-tech companies in north San Jose. That's the revenue that is rebuilding our downtown.

Our urban growth boundary can only be amended once every eight or ten years. When it is, we look at the whole city's fiscal stability in terms of our ability to provide services before we will even entertain an amendment to change the boundary. So far, there has been one request, and we sent them packing until the ten-year review that will happen some time after the year 2000. So, it seems to be working so far.

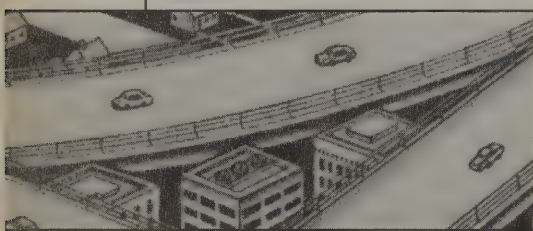
Our Valley Transportation Authority was a great regional restructuring for transportation. Unlike any other transit authority that I know of, VTA combines land-use and transportation planning. City Council members, not just transit-board members, sit on the transit board. When they're considering high-density housing, they also understand that the improvements to transit use will happen if they approve a project. They're thinking like land-use planners, not just like transit directors.

Our local business community constitutes an extremely strong and active regional partnership. The Silicon Valley Manufacturing Group, to be specific, led the charge for a half-cent sales tax to build more light-rail line. They're doing the same thing now with the housing crisis. They have led a housing leadership forum composed of public officials in all levels of government. We're raising a \$20 million housing trust fund, trying to get the cities to streamline their regulatory policies in permitting housing, and educating public officials on why it's important to accept high-density housing and encourage their constituents to accept it as well.

**Angelo Siracusa (Moderator):** Vera, you mentioned the dirty word in the room: "regional government." Local government is suspicious about the deterioration of its own powers in a model like that. What was the political climate that allowed that to happen?

**Vera Katz:** It was not easy, to say the least. We had a voluntary Association of Governments, but

PERFECT  
ORDER,  
NANCY WOLF.



...now we're up against beautiful foothills and a wonderful bay, and we are saying we're not going to develop that land; we're not going to go up the hillsides and go into the bay.



when it's voluntary, people just pick themselves up and walk away from the table. So citizens decided, "Let's create a regional government, put it out for a vote, elect officials from the region, and hope for the best." It has worked very well. We plan together for our transportation dollars; to make sure that the urban growth boundary does not get moved; to share economic plans with each other. Within the region, we do not compete for businesses. In fact, my economic development agency works with other counties to make sure that we don't lose anybody that's interested in moving into the region, even if it's not necessarily into the city of Portland.

You constantly need to work at collaboration. Take the endangered-species listing. The river doesn't stop at the doors of Portland. We have watersheds and tributaries that feed into the river. There is no way we could clean up the river without a regional and a statewide, actually a bi-state, approach. But when the regional government says "You must, and here are the rules and the regulations you have to adhere to," the job does get done.

**Richard Conlin:** Our regional government is not very strong; cooperation is all voluntary. We do have one big hammer: If you don't do an acceptable plan under the state's Growth Management Act, it goes to a growth-management hearings board; if you're ruled to be in noncompliance, the governor can withhold state money from the county.

I believe three county governments did not adopt acceptable growth-management plans. The very progressive governor at the time withheld funds from some of those county governments. The great political news is that all three of those counties wound up having a turnover in their elected officials in the following election—to people who were prepared to put together strong growth-management plans.

**Angelo Siracusa:** If you in fact make it easier for builders to build inside, while prohibiting on the outside, has that worked? What does it mean to density? What does it mean to lifestyle? What does it mean to housing affordability?

**Richard Conlin:** First of all, city governments have to work really hard to get development and affordable housing. Last year, we started 3,600 housing units, which is above our twenty-year target of 2,500 a year. The city council worked to make sure that we had our planning process in place, where neighborhoods could work with developers to have design-review standards and other kinds of things needed to make those developments acceptable to neighborhoods. That's just a lot of work.

*If we have people who like their neighborhoods, they may want to have an apartment when they're in their twenties, move into a single-family house when they have children, maybe move into a condominium after their children have grown. If we can provide neighborhoods with those choices for people, so they can keep the ties they have in that neighborhood, then perhaps we can get people to modify the options that they are choosing at different stages.*



We also introduced some things such as a tax-abatement program. In selected neighborhoods that were not meeting their targets, you could come develop housing and get your property taxes abated for ten years. We're looking at developing a car cooperative program. You would buy into the cooperative, which would actually own the cars; you would then pay only when you use a car. That means that you're internalizing the costs of that automobile every time you make a decision to use it. We expect to launch this cooperative this fall.

**Vera Katz:** You can develop housing, but it will require subsidy. Our city set aside about \$36 million of discretionary resources specifically to subsidize community-based organizations as well as for-profit developers building in sections of the city that are linked to transportation. The key is linking the land use with transportation,

What's very difficult for the community is when the designs are not compatible with the character of their neighborhood. So design standards and design review play a key role in making sure that the community accepts higher density.

Portland has tried a very small car-sharing program. If you don't have a car, you don't need to build a garage (garages and parking spaces cost about \$25,000 a space). The housing costs then are

PERFECT ORDER,  
NANCY WOLF.

lowered, and citizens have an opportunity to go put a key in a car in four different places around the city or rent a car for the weekend.

PERFECT  
ORDER,  
NANCY WOLF.

**Margie Matthews:** I would add that if we're going to create new urban areas, we're going to have to

change people's minds about the way they live. So I would add public education and leadership to what I just heard. I always think of recycling. There was a lot of resistance. But we pulled it off, because we devoted a lot of money to public education, to changing people's attitudes.

**Richard Conlin:** I think the key is balancing education and choices. If we have people who like their neighborhoods, they may want to have an apartment when they're in their twenties, move into

a single-family house when they have children, maybe move into a condominium after their children have grown. If we can provide neighborhoods with those choices for people, so they can keep the ties they have in that neighborhood, then perhaps we can get people to modify the options that they are choosing at different stages.

**Vera Katz:** Portland had a brand-new apartment house in the heart of the downtown and a big sign: "If you are on your way home, you would have been here already." It just rang so true for people to think that they could have been home within five minutes, or walked rather than traveling for an hour somewhere else in the suburbs.

**Angelo Siracusa:** Has the business community resisted efforts to sustain or to contain growth, on the basis that they look upon it as impeding the economic prosperity of the community?

**Vera Katz:** No. As a matter of fact, in many cases they find that it assists them because they realize that building additional utility lines, water lines, sprawling out in the community, costs them; they have to open other offices farther from the city core. And they get it: It is much more economical for them to stay in the city, build the density of the community to provide the services.

**Richard Conlin:** Some businesses just want to make money and run. But most businesspeople want to make money and stay. We really need to be able to communicate that. Seattle has had good success working with our business community.

**Margie Matthews:** Our business group comes to every council meeting where there's a high-density housing project and advocates for it. They go to council meetings in all the cities to shore up council members. When there's a group of neighbors who are resisting, the manufacturing group and the companies they represent stand there with the developer, supporting and urging us to vote for it.

**Angelo Siracusa:** What's the role of the federal government, both as funder and regulator?

**Vera Katz:** I'm not sure they really have much of a role any more. They walked away from the cities long ago. The current administration has been very helpful to cities, with the notion of smart growth that is now being promoted. But in terms of resources and other efforts, we have to do it on our own. Worst of all, state legislators have walked away from the big cities and urban problems. So it's up to us to figure out how to do it.

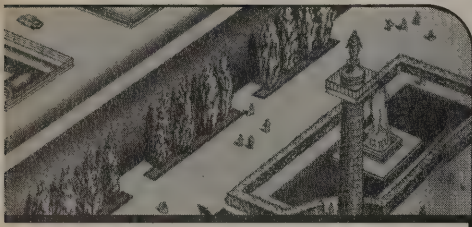
**Margie Matthews:** The states need to realize we may lose our prosperity if they don't partner with the cities in keeping companies from going to other states, let alone overseas.

**Angelo Siracusa:** Can you, finally, give us what you would consider to be the magic label for why your system works in your communities?

**Margie Matthews:** In Silicon Valley, it's entrepreneurship, it's the newness, the openness of our government to try new things.

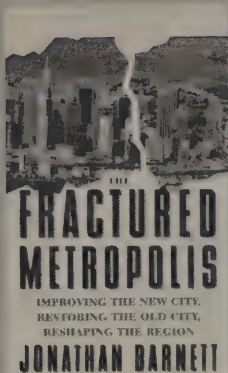
**Vera Katz:** Portland has ninety-five neighborhood associations that are committed, and are building partnerships with the city. Leadership, whether it's at the state level or at the local level, makes this happen, as well as the partnership with the community and the private sector.

**Richard Conlin:** My answer would be that it works because we are seriously committed to partnership, to walking that extra mile to make sure that people understand, and to building communication and citizen participation. ❀



Some businesses just want to make money and run. But most businesspeople want to make money and stay.

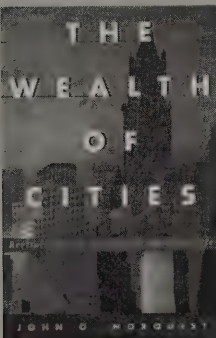
## Livable Cities Access



### THE FRACTURED METROPOLIS

Jonathan Barnett.  
1996; 250 pp. \$25.  
IconEditions/HarperCollins.

A serious and worthwhile criticism of urban design—with solutions. Barnett addresses the already-built and the to-be-built, and plugs for better guidelines in metropolitan design.



### THE WEALTH OF CITIES

John O. Norquist. 1998;  
237 pp. \$25. Perseus  
Books/Addison-Wesley.

Milwaukee mayor John Norquist is one of the new generation of centrist mayors who defy the political left/right clichés. He talks spending cuts, schools, traffic, safety, and civic responsibility with a fervor, challenging urban designers and citizens to re-think the vital constituents of a livable city. Norquist knows transformation, and shows us who's achieving it and how.

### RATING GUIDE TO ENVIRONMENTALLY HEALTHY METRO AREAS

Robert S. Weinhold.  
1997; 197 pp. \$19.95.  
Animas Press.

The top metro areas? Auburn-Opelika, AL; Ithaca, NY; Lewiston-Auburn, ME; and Logan, UT. The worst for toxics: Houston-Lake Jackson, TX. For air, the no-brainer: L.A. For airplane noise, ag pollution, superfund sites, drinking water, density... it's all here. Read it before you move.



### THE GREAT GOOD PLACE

Ray Oldenburg. 3rd ed.  
1999; 368 pp. \$15.95.  
Marlowe & Co.

Cocooning diminishes a community. Remember the neighborhood Place? The cafe, beauty salon, pub, or general store where world hunger and Mrs. Levin's petunia blight were solved by sociable means under one roof? Oldenburg, in this new edition, champions the community hang-out and traces its evolution. Due out in July.

### MAYORS' INSTITUTE ON CITY DESIGN

Several sessions a year.  
c/o US Conference of Mayors. 1620 I Street NW, 3rd Floor, Washington, DC 20006. 202/463-1390, micdinfo@micd.org.

A brainstorming alliance of designers, urban planners, and city leaders established in 1986 by the National Endowment for the Arts to help mayors design more livable cities. The institute recently vaulted into full partnership with the NEA and the American Architectural Foundation (AAF). Enlightened city design does happen.

**NATIONAL LEAGUE OF CITIES LEADERSHIP TRAINING INSTITUTE**  
\$420-610 per 2 1/2-day summit. 1301 Pennsylvania Avenue NW, Suite 550, Washington, DC 20004. 202/626-3170, lti@nlc.org, www.nlc.org.

These workshops and conferences empower and inspire anyone with a call to civic participation. Conflict management, urban safety, public speaking, community vision—government leadership from the ground up. For mayors, council members, and local-leaders-in-the-making. Geared toward elected representatives.

### THE PEW PARTNERSHIP

145-C Ednam Drive, Charlottesville, VA 22903. 804/971-2073, mail@pew-partnership.org, www.pew-partnership.org.

This is the can-do/we'll-show-you-how civic research organization of our dreams. Its three initiatives (Wanted: Solutions for America; the Pew Civic Entrepreneur Initiative [PCEI]; and the Civic Change Project) document and disseminate cutting-edge community solutions. Pew deals in real, field-tested "best practices," bridging the gap between theory and the real world. Periodic action-research updates are available free. "Civic processes or inventions that will actually change the outcome in a community." What more is there?

### INSTITUTE OF ECOSYSTEM STUDIES

Box AB, Millbrook, NY 12545. 914/677-5343, www.ecostudies.org.

What defines an ecosystem? IES, one of the largest ecological programs in the world, says "everything"—including the urban landscape. The line between a system's biotic and abiotic elements is fuzzy; this insti-

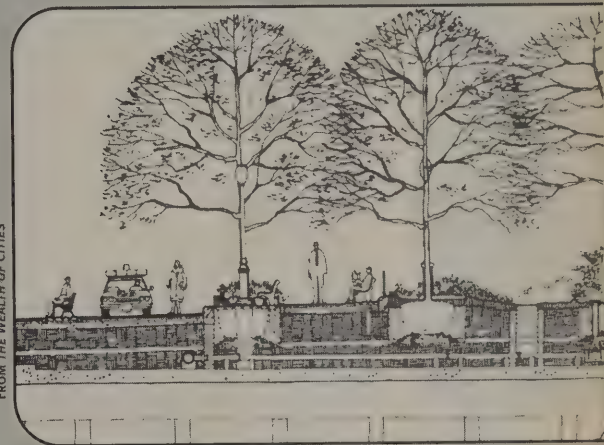
tute embraces the best and most innovative of definitions in the process of capturing and sustaining (all) our worlds.

### INITIATIVE FOR A COMPETITIVE INNER CITY

727 Atlantic Avenue, Suite 600, Boston, MA 02111. 617/292-2363, initiative@icic.org, www.icic.org.

ICIC wants business—real business, competitive business—in the inner cities. This national nonprofit is the upshot of several years of research on inner-city economic and business development. It

makes markets. Its corporate philanthropy program smooths the way for transfer of resources from the private sector to underserved communities. Its for-profit equity fund, Inner City Ventures (ICV), targets likely inner-city growth companies and seeks market rates of return. ICIC established the National Business School Network (NBSN) to encourage urban graduate business schools to work with inner city-based companies. The Initiative's founder, Harvard Business School professor Michael E. Porter, has done a good thing here.



## “Breathing Walls” for Office Buildings

To reduce heating and cooling costs, most office buildings are made as airtight as possible, allowing the buildup of indoor air pollution, sometimes to the point of affecting occupants' well-being. So then building managers pump in “clean” air, which must be conditioned, defeating in part the purpose for making the buildings airtight.

“Breathing-wall biofilters” may offer a natural and aesthetic alternative. One of these designs has been tested since 1994 in the Toronto offices of Canada Life Assurance, as a joint project of Canada Life's Adason Properties division; Genetron Systems (which developed the initial technology and coined the “breathing wall” label); and the University of Guelph, which is studying the use of biological systems in a variety of enclosed spaces from greenhouses to space stations.

The heart of the system is a bio-scrubber made of porous, constantly wetted lava-rock panels covered with mosses and maidenhair ferns. Fans draw air through this wall. Water from it circulates into a terrestrial

zone and an aquarium, then back to the top of the wall. The system (with some added nutrients) supports aquatic and semi-aquatic plants, amphibians, fish, insects, and earthworms.

Air-carried pollutants dissolve in the water and break down in the wall's living mat of mosses and in the aquatic and microbial/terrestrial zones. Green plants remove CO<sub>2</sub>, provide a home for microbes, and help process microbial by-products.

This scheme differs in three ways from just placing a lot of plants around a room. First, the plant/animal ecosystem is very complex, to encourage ecological stability and increase the potential for developing its own responses to imbalances. Second, the ecosystem is largely hydroponic (see *Whole Earth* No. 96 on the problems of a soil-based closed system in Biosphere 2). Finally, drawing air through the wall increases the air's contact with the bioscrubber, the system's workhorse.

After satisfying themselves that this largely closed system would not in fact produce harmful air as the soils of Biosphere 2 did, Guelph researchers tested its effectiveness by releasing volatile organic compounds (VOCs) representing a broad range of

pollutants. It worked well to remove and metabolize formaldehyde, toluene, and several other compounds. Results were not as good with trichloro-ethylene, which is relatively insoluble and resistant to chemical breakdown; Guelph research coordinator Alan Darlington believes modifications will increase the capacity to remove the TCE as well.

Testing focuses now on sizing (current estimate: a minimum bioscrubber-to-floor-space ratio of about 1:100). If the system continues to perform well, design will turn to cost effectiveness, in hopes of recouping costs through air-conditioning savings, while reducing energy use and making buildings more sustainable. Costs include construction, modifications to air-handling systems, and ongoing mechanical and biological monitoring and maintenance. Dr. Darlington hopes to see cost-effective systems in high- and low-temperature climates within ten years. —MKS

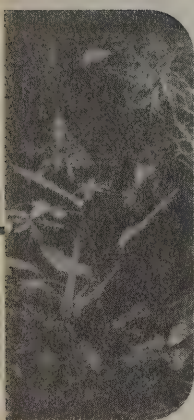
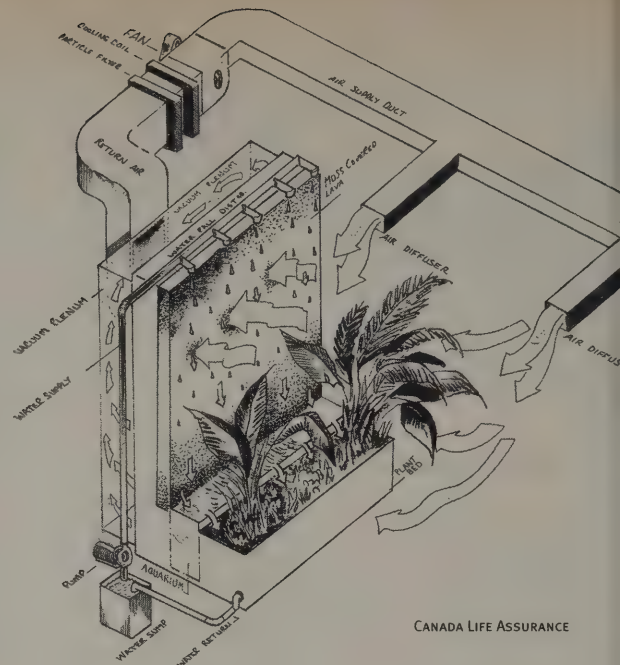
### For more information

University of Guelph, [cler@echo-on.net](mailto:cler@echo-on.net), [www.uoguelph.ca/hortsci/cler/Enviroweb/](http://www.uoguelph.ca/hortsci/cler/Enviroweb/).

Adason Properties, 181 University Avenue, Downsview, ON M5H 3M7, Canada. 416/363-3667.

Genetron Systems (including other projects not connected to the University of Guelph): 4801 Keele Street, Unit 34, Downsview, ON M3J 3A4, Canada. 416/665-8155, [genetron@gpcmp.com](mailto:genetron@gpcmp.com), [www.gpcmp.com/genetron](http://www.gpcmp.com/genetron).

SUMMER 1999 ⊕ WHOLE EARTH



Right: Kids practicing “hands-in” learning with the bioscrubber's aquarium.



### CONCERN® CITRUS HOME PEST CONTROL™

\$5.99 for 32 oz.; \$12.99 for 64 oz.  
Necessary Organics, Inc., New Castle, VA.  
Available at local home and garden stores;  
[www.concerngarden.com/](http://www.concerngarden.com/).

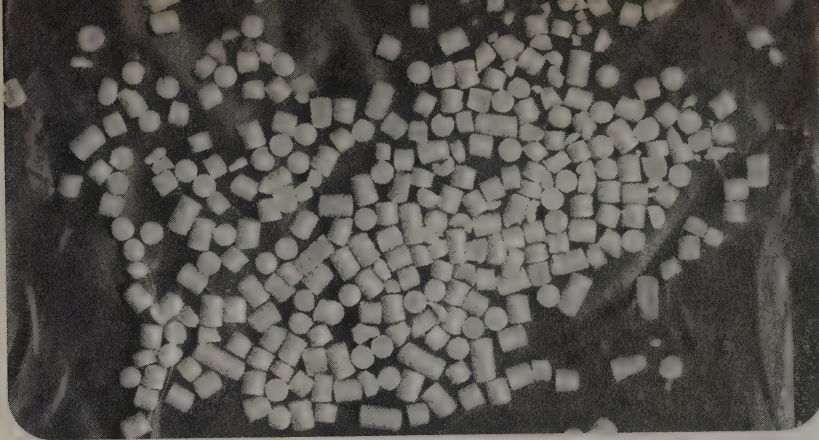
Advertised “for people who don't like bugs or chemicals in their kitchen,” this is “the first home pesticide you can use around food, people, and pets. Citrus Home Pest Control is made from water and orange-peel extract (d-limonene), which is deadly to roaches, ants, fleas, and other household bugs. Actual in-home tests have shown

better results with cockroaches than chlorpyrifos pesticide. It kills ants on contact and destroys the chemical trails they follow. It kills fleas and can be sprayed directly on your pet's bedding. It smells good, too! What you smell when you kill bugs is the clean scent of citrus.”

According to the Material Safety Data Sheet, the product's health-hazard rating is “insignificant.” It can be mildly irritating to the eyes, and there is a possibility of reactions by individuals with citrus allergies. No special ventilation is needed during use. —*HortIdeas* (see opposite)

# HortIdeas

You will find HortIdeas as the author of a half dozen or so reviews in this issue. HortIdeas is Greg and Pat Williams from Gravel Switch, Kentucky. They've been reporting for decades on the latest research and access for vegetable and fruit growers and gardeners. We couldn't find them at first, since Kentucky has micro-managed its booze and no-booze counties to make it easy to walk from one to the other; the Williams' phone line came from the neighboring county's area code. After a longish talk about Gregory Bateson and phenomonology, Greg said "Sure, print our reviews. The Brooklyn Botanic Garden's been doing it for years." For more details and discussions on every topic from milorganite to xeriscaping, order the monthly HortIdeas (\$20/yr.) from 750 Black Lick Road, Gravel Switch, KY 40328. —PW



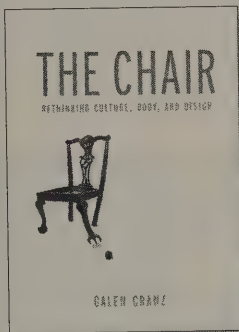
## ESCAR-GO!<sup>TM</sup>

\$15.94–42.94 postpaid for 1.25–5.5 lbs. Gardens Alive!, Inc., 5100 Schenley Place, Lawrenceburg, IN 47025. 812/537-8651, www.gardens-alive.com.

The active ingredient in this slug and snail bait-and-control product is iron phosphate, which would appear to pose a low risk to humans and pets. According to the Gardens Alive! catalog, mollusks will stop feeding after eating only a small amount of iron phosphate (made palatable in Escar-Go! by the addition of a bait ingredient ostensibly tastier than plants) and will die within a few days. At the University of Berlin, field trials showed that Escar-Go! resulted in slug con-

trol as effective as that provided by conventional molluscicides. [Snails also love a cup full of beer and, hopefully, imbibe in a happy dead drunk. —PW]

Escar-Go! granules should be applied to moist soil at a rate of approximately one pound per 1,000 square feet (about one level tablespoon per square yard). It should be reapplied every two weeks, or more frequently if rainfall is high. The product is registered for control of slugs and snails on vegetables, fruits, ornamentals, and lawns. It costs less than one dollar for enough to treat 100 square feet. —HortIdeas



## THE CHAIR Rethinking Culture, Body, and Design

Galen Cranz. 1998; 288 pp. \$27.50. W.W. Norton.

Chairs date to the Neolithic Age. (See "How the Chair Conquered the World," *Whole Earth* No. 90.) Since then humans have been plopping, draping, twisting, and perching on chairs—which are designed to meet often-contradictory

desires for comfort, efficiency, status, and stylishness. Galen Cranz's cultural history/rant surveys human-chair coevolution, with special attention to ergonomics. She evaluates good and bad recent designs (the UC Berkeley College of Environmental Design's chairs flunk) and offers a vision for an ideal, and largely chair-free, workplace. —MKS

“Marketing departments usually design car seats by assembling a panel of judges to sit in a range of seats for 8.5 minutes and then rank them to find the “best.” Why 8.5 minutes? Because this, my industry informant tells me, is the average time a customer sits on a seat when buying a new car. So much for body-conscious design. Car seat design lags behind the sophistication otherwise lavished on vehicle design and research.

“The advantage of lounge chairs is that they take load off the spine like any other backrest, but, also, just as importantly, they take the load off the neck and head, otherwise forced into a swanlike configuration. People raise the objection that you can't work in a semi-reclined seat. However, many like to drive that way; so why not keyboard that way?... (I currently use such an arrangement without a problem).



## TURFTACS<sup>TM</sup> BIODEGRADABLE STAPLES

\$115 postpaid for 2,000 staples. EcoTurf, Inc., 300 Elizabeth Street, Dept. WHE, Chicago, IL 60607. 888/887-3822, 312/226-0099, ecoturf@aol.com.

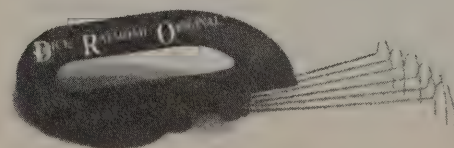
The kindest, gentlest gizmo to secure sod or landscape fabric to the earth. These giant staples are

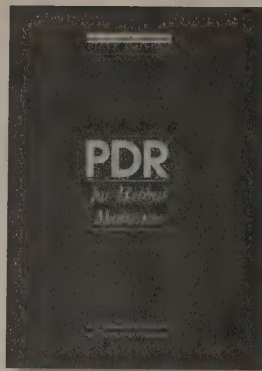
made from corn by-products that break down in six to eight months. They're easier to use than traditional stakes, and—because they disappear with time—won't mix it up with power equipment (mower blades and rototiller tines), as wood or metal might. For landscapers, sod farmers, and turfers, the TurfTacker<sup>TM</sup> stapler (available separately for \$175) is a stand-up applicator: no more sore backs and knees. A thoughtful alternative to the insert-and-better-not-forget-to-remove staples already on the market. —NP (Suggested by HortIdeas.)

## IN-ROW WEEDER/HOE<sup>TM</sup>

\$23.95 (\$27.45 postpaid). Dick Raymond Original<sup>TM</sup> (DRO), PO Box 120, North Ferrisburg, VT 05473. 800/353-5047, drgrayden@together.net, www.dickraymond.com.

This lightweight tool is specially designed to remove weeds near closely spaced plants in beds. It has six stainless-steel tines in an arc that can be adjusted from three inches to nine inches across, and an easy-to-grip, detachable handle. “100% lifetime money-back guarantee.” —HortIdeas





**PDR® FOR HERBAL MEDICINES**

Thomas Fleming, chief ed. 1998; 1244 pp. \$59.95. Medical Economics Company.

There is more to healing than medical science, and more to herbalism than chemistry and pharmacology. That said (and assuming the student maintains relations with the herbal communities and their publications), this is a wonderful and welcome book.

Produced by the publishers of the *Physicians Desk Reference*, *PDR for Herbal Medicines* is an ambitious attempt to separate scientific from anecdotal evidence. A stated purpose is to provide doctors with a reference so they can better advise patients asking about specific herbal remedies. The publishers claim that the book is "the closest available analog to FDA-approved labeling." The book is mostly based on the monographs of the German Regulatory Authority, "Commission E." While some herbalists have questioned the Authority's authority, the information seems to me to be a clear step above earlier American attempts such the *CRC Handbook of Medicinal Herbs*, which is almost useless for assessing the effectiveness of an herb for a particular condition.

The book lists more than 600 plants by

scientific name. Each listing has sections covering actions and pharmacology; indications and usage; contraindications; precautions and adverse reactions; overdosage; dosage; and literature.

A wealth of indexes immensely increases the usefulness of an already useful book, beginning with indexes for scientific and common names, and for indications (including, for example, nineteen subcategories under "pain"). Next is an index of therapeutic categories (I found *Artemisia absinthium*, one of my favorite plants, listed under



"appetite stimulants"; oddly, I did not find *Cannabis* there, though it appears under several other headings, such as "antispasmodics"). The side-effects index and a drug/herb interactions guide are alone worth much of the price of the book. In the latter I learned that yeast, *Saccharomyces*

*cerevisiae*, interacts with MAO inhibitors to increase blood pressure, and that ginkgo should not be taken with antiarrhythmics. —Dale Pendell

“**HERACLEUM SPHONDYLIUM**  
Masterwort

**ACTIONS AND PHARMACOLOGY**

COMPOUNDS

*Furocoumarins*: in particular bergapten, isopimpinellin, pimpinellin, isobergapten, sphondin  
*Volatile oil*: including ones containing n-octylacetate.

EFFECTS

Masterwort is a mild expectorant, however, this has not been scientifically proven.

**INDICATIONS AND USAGE**

In folk medicine, the drug is used to relieve muscle cramps, stomach disorders, digestion problems, diarrhea, gastrointestinal catarrh, and diarrhea following a cold. The furocoumarin methoox-salin is used in the treatment of psoriasis. Efficacy has not been proven

**PRECAUTIONS AND ADVERSE REACTIONS**

Phototoxic effects must be avoided following intake of the drug due to its furocoumarin content. For that reason, UV-radiation and solarium should be avoided after its administration. The same danger exists following contact with the freshly bruised plant.

Right: *Heracleum sphondylium*.



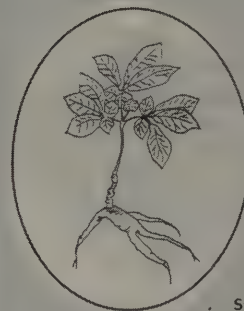
**JULIETTE OF THE HERBS (VIDEO)**

Tish Streeten, prod./dir. 1998; 75 mins. \$35 (\$40 postpaid). Mabinogian Films, PO Box 92, Spencertown, NY 12165. 518/392-4257, streeten@taconic.net.

Juliette de Bairacly Levy is a truly great lady of the herbal realm. Now in her eighties, she has been a passionate student of nature, an adventurer, writer, teacher, and champion of Gypsy culture. This video charms and informs with Juliette's delightful commentary, photos, and tales of life on the road of healing plants. Born of Turkish and Egyptian parents and raised in England, she began as a girl to raise animals, curing them with diet and herbs. As a young woman she discovered that the Gypsy families roving

Europe were her kindred spirits, and has maintained a lifelong friendship with their communities. Over more than fifty years, she has written classics on herbal cures for animals and children, and is credited with launching many young herbalists when there were few texts on the subject.

Certain moments in the video reveal more than print can about right relationship to nature, as when she sings praises to the olive tree while she harvests from it, combing its leaves. She tells how, feverish after childbirth, she nourished her tiny daughter by letting her suckle on a goat. While raising her children as a single mom on the shores of Lake Galilee, she also raised hawks and befriended Bedouins. She argues that we must respect people of the land, insists that we love all the animals (she bred a renowned line of Afghan dogs), and warns of the ways we lose what we don't appreciate. Her herbalist friends Rosemary Gladstar and Susan Weed chat with her, and there is a touching scene in which her old friend Helen Nearing reads Juliette's palm, and they speak sweetly about death. —Kathleen Harrison



ety of seeds and roots but its expertise as well. On-site consulting, soil testing, and planting services help growers-to-be make the most of a crop. They list nineteen native medicinal roots and seeds ("We offer many other woodland plants"), and several American ginseng products. Joe-pye, goldenseal, partridgeberry, feverfew...browse the spectrum on their Web site, or request a catalog. —NP (suggested by *HortIdeas*)

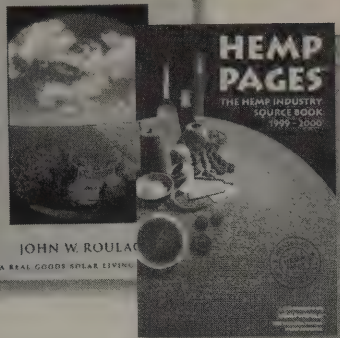
**INDIGENOUS MEDICINAL HERBS AND ADVICE**

*Sylvan Botanicals/American Ginseng*, PO Box 91, Coopers-town, NY 13326. 607/264-8455, ginseng@telenet.net, www.catskillginseng.com.

Connoisseurs, growers, and sellers of indigenous medicinal plants, Sylvan offers not only a vari-

## HEMP HORIZONS

The Comeback of the World's Most Promising Plant



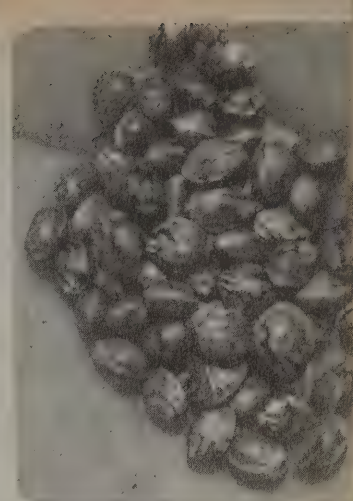
from hemp apparel and building materials to government licensing offices.

The book's endpapers are 50-percent hemp paper, but the publishers report that printing the whole on hemp paper would have more than doubled the cover price—a reminder of the dilemma created by the low current demand for hemp products, and an argument for hemp as a great crop for subsidization. —Robin Atwood

With the help of EcoSource and Living Paper, *Hemp Pages* is printed on five styles of hemp paper. *Pages* features practical marketing tips, an extensive glossary, a calendar of events, Web sites, and more useful annotated access pages than *Hemp Horizons*. I found that the ads were actually a helpful addition. —MKS

“After hemp has been harvested, the field remains virtually weed-free for the next crop. In the twenty-nine countries allowed to cultivate hemp, this fact alone is saving farmers untold thousands of dollars while improving soil and water quality by eliminating the need for agricultural chemicals. —HEMP HORIZONS

“The seed growing wild around North America is a repository, in the



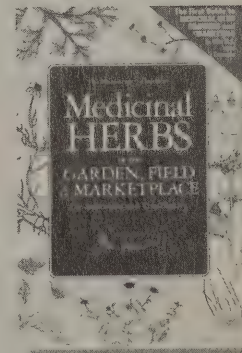
Left: Hemp harvesting. Above: Hemp seeds ready for planting. Both from *Hemp Horizons*.

“genetic package” sense, the only one we have left of Kentucky hemp. But like an old tome left in the elements, the message is badly degraded....Currently in North America we must import certified hemp varieties from Europe. That puts us on a par with pre-1850 from a plant breeder's perspective. —HEMP PAGES

## MEDICINAL HERBS IN THE GARDEN, FIELD & MARKETPLACE

Lee Sturdivant and Tim Blakley. 1999; 323 pp. \$24.95. San Juan Naturals, PO Box 642, Friday Harbor, WA 98250. 800/770-9070, 360/378-2648, naturals@bootstraps.com, www.bootstraps.com.

This is the most recent of the Bootstrap Guides, a series created by co-author Lee Sturdivant to help growers of herbs and flowers get their wares to market. Sturdivant found the ideal person to share in the writing of this book—Tim Blakley has worked for Frontier Herb Cooperative in Iowa and Herb Pharm in Oregon, and is now manager of the National Center for the Preservation of Medicinal Herbs, in Rutland, Ohio. Lee's chatty reporting on the doings of a wide variety of people involved with medicinal herbs fills the first 110 pages. Tim's authoritative advice on growing and processing medicinal herbs (with in-depth information on dozens of species), covering an additional 145 pages, is unbeatable. Then there are sixty pages of resource lists and responses of herb companies to a survey about their needs for suppliers of medicinal herbs. Superbly done! We can't imagine a better guide for anyone who wants to try growing medicinal herbs for sale. —HortIdeas



This comprehensive directory is the child of the Herb Growing & Marketing Network (HGMMN), the largest herb trade association in the country. Mother of all herbal-companies resource guides, *The Herbal Green Pages* alphabetically lists contacts for virtually every publisher, educational program, botanical garden, supplier, distributor, related-product manufacturer, marketing supplier, tool maker, and tour operator in the US having anything to do with herbs. (There's even a category for copywriters...Should we enlist?) This eighth annual edition is massive—over 400 pages—but ring-

bound for flat-page browsing.

Any which way you can: *The Herbal Green Pages* is available in hardcopy, either independently or as part of membership (\$75) in HGMMN; or as a CD-ROM or four-disk IBM-format series (\$40). There's even an abbreviated version on the “herb-world” Web site. (For “all things herbal” on the Internet, try www.herbnet.com, another HGMMN resource.)

Whom can you trust, if not the editor who signs her letters, “Herbally, Maureen Rogers”? —NP (suggested by *HortIdeas*)

## THE HERBAL GREEN PAGES:

An Herbal Resource Guide

1988-99

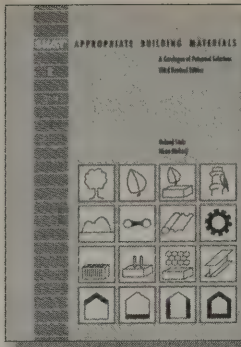
Editor: Maureen Rogers  
A Publication of

The Herb Growing & Marketing Network  
Herb World  
PO Box 245, Silver Spring, PA 17575  
717/393-3295  
herbworld@aol.com  
www.herbworld.com



## THE HERBAL GREEN PAGES™ An Herbal Resource Guide

Maureen Rogers, ed. 1999; 430 pp. \$35. The Herb Growing & Marketing Network, PO Box 245, Silver Spring, PA 17575. 717/393-3295, herbworld@aol.com, www.herbworld.com.



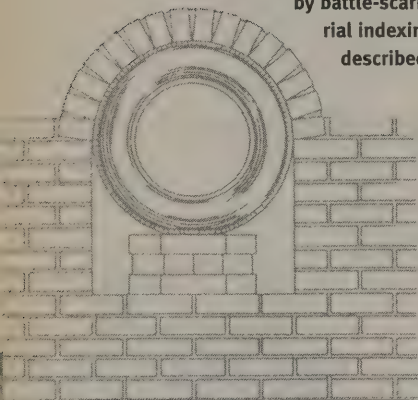
**APPROPRIATE BUILDING MATERIALS**  
A Catalog of Potential Solutions

Roland Stulz and Kiran Mukerji. 3rd ed. 1998; 434 pp. £16.95. Intermediate Technology Publications,

www.oneworld.org/itdg/publications.html. In US, \$30 from Stylus Publishing.

Since its first publication (1981), this remarkable book has been the place architects, engineers, and builders from “developed” countries learn how little they know about how the rest of the world builds. (Few US proponents look further than straw and adobe.) The best summary of technical data and how-to in one volume. Updated materials and techniques, nicely tempered by battle-scarred wisdom. Great pictorial indexing! As much of the work described is unhampered by inflexible US building codes, “appropriate” takes on new meaning.

—J. Baldwin

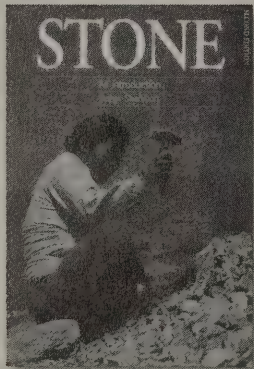


- “Appropriateness:
- Is the material produced locally, or is it partially or entirely imported?
  - Is it cheap, abundantly available, and/or easily renewable?
  - Has it been produced in a factory far away (transportation costs!); does it require special machines and equipment, or can it be produced at lower cost on the building site? (Good quality and durability are often more important than low procurement costs.)
  - Does its production and use require a high energy input, and cause wastage and pollution? Is there an acceptable alternative material which eliminates these problems?
  - Is the material and construction technique climatically acceptable?
  - Does the material and construction technique provide sufficient safety against common natural hazards (eg fire, biological agents, heavy rain, hurricanes, and earthquakes)?
  - Can the material and technology be used and understood by the local workers, or are special skills and experience required?
  - Are repairs and replacements possible with local means?
  - Is the material socially acceptable? Is it considered low standard, or does it offend religious belief? Does it match with the materials and constructions of nearby buildings?

Wastes
Sulphur
Plastics
Glass
Metals
Timber
Bamboo
Fibres, grasses, leaves
Fibre concrete
Ferrocement
Concrete
Pozzolanas
Cement
Lime
Binders (general)
Fired clay products
Soil stabilizers
Earth, soil, laterite
Stone

Left: Materials used and building elements index.

Far left: “Simple arches can be constructed over openings by using old car tyres as formwork. This was tried out on a project in India (1986) and found externally easy to carry out...The bricks should be laid alternately on each side of the tyre, since excessive load on one side can deform the tyre and distort the shape of the arch. Care must be taken that the lower edges of the bricks touch each other.”



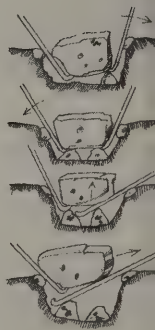
**STONE**  
An Introduction  
Asher Shadmon. 2nd ed. 1996; 172 pp. £12.95. Intermediate Technology Publications (see above). In US, \$25 from Stylus Publishing.

The recent revival of stone in architecture is well attended in this bedrock overview of the most venerable of construction materials. The makeup of stone; its role over time; sources and extraction methods; tools; the effects of age and environment: all are presented in easily understood text and illustrations. For novice stoneworkers as much as for architects, it’s literally the nitty-gritty. —JB



Left: men sawing limestone.

Right: stone extraction method.



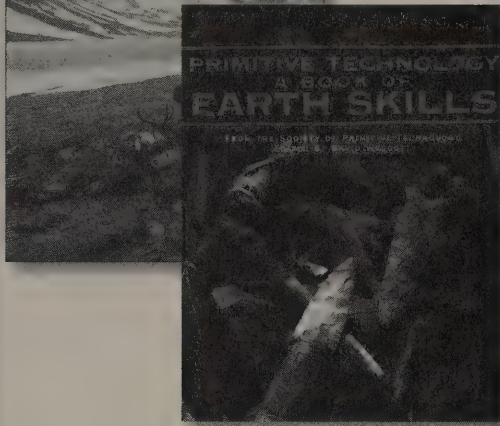
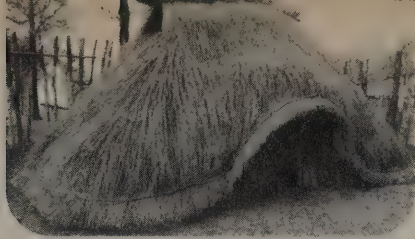
“Stone is the natural material par excellence which has withstood the test of time, and towns or villages built in stone have a clean look which is difficult to duplicate in manufactured materials. Stone is rot- and termite-proof, with low fire hazard and little likelihood of vermin contamination.

...In a desert, stone houses can be designed to contribute to water conservation on the dewpond principle, used by the ancients to gather water in desert areas. Proper utilization of the thermal properties of stone can induce energy savings by reducing the need for air conditioning, cooling and heating requirements.

“Construction with stone is most likely to be associated with walling—even before the day that Joshua won the battle of Jericho and the walls came tumbling down! Retaining walls...are used to keep back earth, soil, fill, terracing or to preserve contour levels, to act as road-cuttings or control erosion; in all of these uses, one face is exposed.

...Free-standing walls, such as a stone dividing wall, have both faces exposed. When dealing with ashlar, slabby or squared stones, the construction of the first course is fairly straightforward, but random rubble requires special techniques.





The Inuit around Hudson Bay have forgotten how to make the hunting weapons used by their ancestors. Can a white man from Virginia teach them the old ways? Yup. Can aboriginal peoples teach "moderns" about adaptability, patient attention to craft, and working with resources at hand? Yup. The Society of Primitive Technology promotes the practice and teaching of aboriginal skills, links teachers and practitioners, and sets standards for authenticity, quality, and ethics in the manufacture and sale of artifacts. Its *Bulletin* celebrates craft and the patient detective work involved in learning endangered skills. Fascinating stuff, and a good way to get the feeling of anthropology in action. *Primitive Technology* is a "best of" compilation from issues 1-10 of the *Bulletin*. —JB

### BULLETIN OF PRIMITIVE TECHNOLOGY

David Wescott, managing ed. \$25/year (2 issues) included with membership in the Society of Primitive Technology. PO Box 905, Rexburg, ID 83440. 208/359-2400.

### PRIMITIVE TECHNOLOGY A Book of Earth Skills

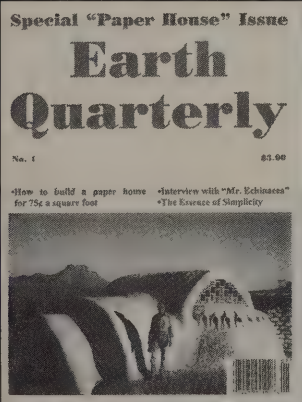
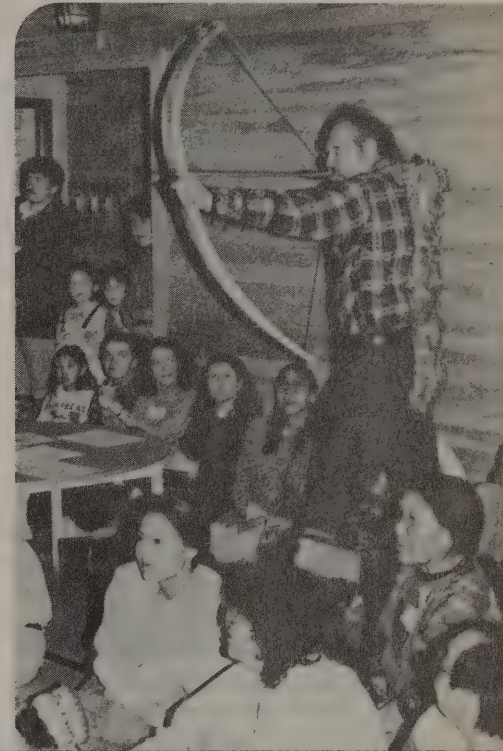
David Wescott, ed. 1999; 248 pp. \$24.95. Gibbs-Smith.

Left: Baby with sphagnum moss diapers. —BULLETIN OF PRIMITIVE TECHNOLOGY

"I was, in fact presented with a pair of seal skin boots and liners made by Silatik Meeko, an elder who immediately claimed me as her "husband," since women only give boots to their mates. (She was a widow.) I wondered why everyone was roaring with laughter, till it was translated. For a moment I had thought it was serious....This was my first introduction to the marvelous and incessant humor of the Eskimo. —ERRETT CALLAHAN, BULLETIN OF PRIMITIVE TECHNOLOGY

Top left: A reconstruction of a 1000 C.E. Emergent Mississippian pit house, based upon an exact duplication of the excavated floor plan. —PRIMITIVE TECHNOLOGY: A BOOK OF EARTH SKILLS

Right: Errett Callahan test-shooting a re-created Eskimo bow that he built for a village cultural-skills exchange program at Sanikiluaq, on the Belcher Islands in Hudson Bay. Such tools had not been used in the area for well over 100 years. —BULLETIN OF PRIMITIVE TECHNOLOGY



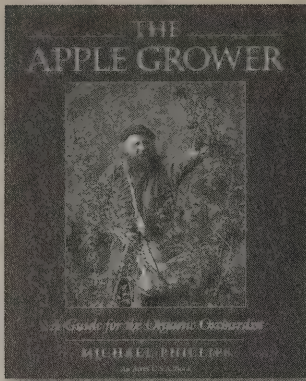
This modest publication sounds and looks like its publishers still live in 1965. I say this as a compliment; far from being a retro effort, the magazine seethes with the innocence, high-spirited ingenuity, and just plain daring that have always been necessary ingredients of imaginative beginnings. The *Earth Quarterly* crew's main focus these days is on developing "Papercrete," a means of converting junk mail into safe, permanent, energy-efficient houses for less than one dollar per square foot. A worthy goal, yes? And not a bad way to live. —JB

mix together a soup of 60% paper, 30% screened dirt or sand, and 10% cement. Then you take this glop and either (1) make it into blocks or slabs, (2) pour it into forms directly on your wall, (3) plaster over existing walls, or (4) use it for mortar. (It's possible to use straw or even dried grass to supply the fiber if paper is unavailable. Cardboard can also be used—its only disadvantage is its bulk.)

When dry, fibrous cement is lightweight, an excellent insulator, holds its shape well, and is remarkably strong. It is resistant to being crushed (compressive strength) and to being pulled apart (tensile strength). (Regular concrete, on the other hand, has high compressive strength but no tensile strength to speak of, which is why it usually has to be reinforced with steel bars, called "rebar.")

"A paper house isn't made out of sheets of paper blowing in the wind. Instead, it's built with a type of industrial-strength papier maché called fibrous cement. Basically what you do is take a large mixing vat, soak old magazines and newspapers until they're soft, and then

**EARTH QUARTERLY**  
Gordon Solberg, ed. \$20/yr (4 issues).  
Earth Quarterly, Box 23, Radium Springs,  
NM 88054. 505/526-1853,  
earth@zianet.com, www.zianet.com/earth.



**THE APPLE GROWER**  
A Guide for the Organic Orchardist

Michael Phillips. 1998; 242 pp. \$35. Chelsea Green.

For anyone who is growing, or is heading toward growing, or even just dreaming about

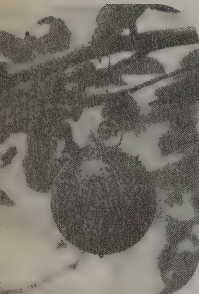
growing “low-spray” apples, we have five words of advice with regard to this book: buy it and read it! Phillips has been growing apples organically in New Hampshire for several years, and after all the hard work he has put in and continues to put in, he has no qualms about demystifying—indeed, deromanticizing!—a demanding, intricate, and still-evolving routine that is light years away from the venerable (but ridiculous) wishful notion of “just let the apples grow the way nature intended.” This organic orcharding stuff is hard work, folks! As Phillips himself says, it’s a “struggle.” One of the most important achievements of this book will be to warn off those who are enthusiastic yet not really prepared to apply themselves so diligently and—we might as well say it loud and clear—unceasingly. We have met several commercial and semi-commercial apple growers who characterized their practices as “organic,” “conventional,” or something between those extremes, and not one of those folks seemed even remotely “laid back”!

But aside from this book’s cautionary value, it offers many, many practical tips for (not just organic, and not just apple) orchardists, from choosing a site to marketing. The advice on organic pest control is based primarily on the experiences of Phillips in his own orchard, and so has a first-person authenticity, but it is only fair to point out that “the best way” to produce organic fruit remains a controversial topic, with several issues still unresolved. This is not a book that provides recipes guaranteed to work in all cases. The fine points of organic orcharding are just too closely connected to local conditions for that to be possible. Perhaps some other apple growers will want to criticize some of the recommendations—and that’s fine with us; we only hope that the critics will make public (not necessarily by writing books, but at least through articles) what procedures work best for them. Whether or not it generates such controversy, *The Apple Grower* will likely remain the best single source of information—including suppliers and member organizations—on organic apple production for a long time. —*HortIdeas* (see page 57)

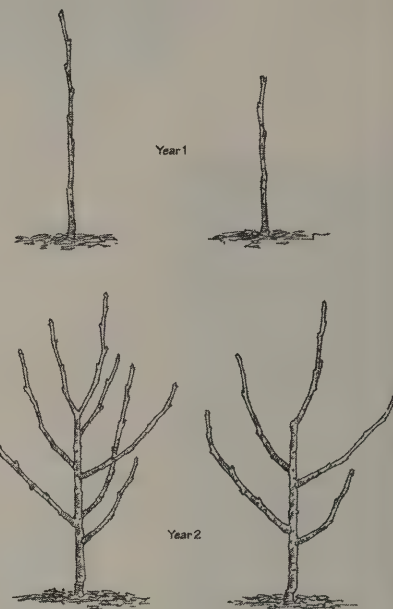
“Creating an apple farm begins by planting one tree at a time. Rows fill out inside a field that, if you’re on the ball, is already fenced in from deer. Those just-planted fruit trees now become a harmonious whole: your orchard. There is a sanctity to this ground that the vegetable garden or rolling wheat field never quite attains. The trees stand permanently in position through all the days of the year. The plantings never rotate, but rather, the spring air mixes into the summer sunshine that takes on the robust scents of autumn to finally greet the gently falling snows on the awaiting limbs.

“Then there’s the traditional English cider orchard. Sheep do the mowing in blocks where the height of the bottom scaffold branches are determined by the temptation to browse. Grazing animals in the orchard has had its adherents over the years. Windfalls from June drop on can be consumed before larvae manage to leave the apple. Manure happens in place, but be wary of overfeeding trees between petal fall and leaf fall. Dwarf trees are out of the question with animals, and so are cider drops, which are more likely to be contaminated with *E. coli* bacteria.

Below: Place apple maggot fly traps to catch the light, keeping them close to nearby fruit.



Near right: The all-too-smug apple curculio pupa.



Above: Scaffold branches strong enough to bear a full fruit crop are formed by early training. Vigorous stock should be topped at the outset, but leave dwarf trees alone for the best yield.

**SLIDE & GLIDE®  
ERGONOMIC WHEELBARROW**

\$120 postpaid. Straight Shot Enterprises, Inc., 3403 Ehrlich Road, Tampa, FL 33618. 800/542-0876, 813/968-9045, president@slideandglide.com, www.slideandglide.com.

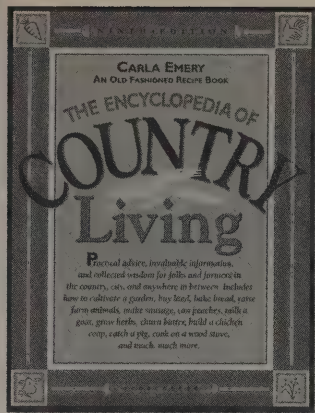
This one will save your back during loading, moving, and unloading. The Slide & Glide has a large-diameter bicycle wheel in front; a large, flat-loading platform in the middle, for stability; and handles at nearly waist-height in the rear. Carries a 200-pound load; unloaded weight is 45 pounds.



Developed by Jon and Tom Kueny to minimize lifting and to make it easy to move heavy and cumbersome loads over rough ground. All-steel construction, welded cross members. —*HortIdeas*



Right: No lifting: a ground-level loading platform preserves back and shoulder muscles. Standard plastic mixing tubs, good for loose material, fit the Slide & Glide platform.



**THE ENCYCLOPEDIA OF COUNTRY LIVING**  
An Old Fashioned Recipe Book

Carla Emery. 9th ed. 1994; 858 pp. \$27.95. Sasquatch Books, 615 Second Avenue, Seattle, WA 98104. 206/467-4300, www.SasquatchBooks.com.

This book is a monument to the coevolution of a person and an idea. It affirms the *I Ching's* notion that perseverance furthers. Twenty-five years after its birth by mimeography in a Kendrick, Idaho kitchen, the *Encyclopedia* has survived its ninth pupation and emerged as a perfect-bound, 900-page, real live book. "More than 300,000 Sold!" says the back cover. More than 80,000 of those copies were produced by Carla Emery's own two hands and distributed from the tailgate of a station wagon full of kids.

Reading this edition is like studying someone's lifelong obsession with the collection and arrangement of salt-and-pepper shakers. One marvels at the sheer volume of knickknacks, but wonders about some of the choices. (Does even the rawest of recruits to Arcadian existence really need to be told that a chain saw is the best tool for cutting firewood? Is there any practical utility in

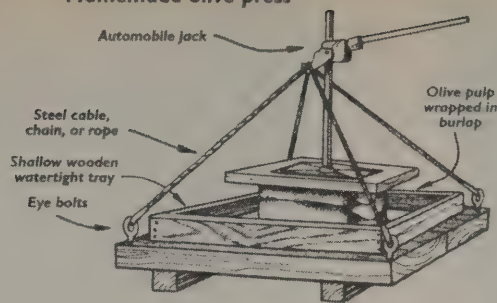
learning from a book how to castrate a pig or harvest a crop of wheat with a scythe?)

Nevertheless, as folk literature—as the crazy quilt of a quarter-century's worth of hints for rural living and as a monument to one woman's determination to feed her seven children by ingenuity and hard work—this book should be shelved in your collection between the *Foxfire* books and Alicia Bay Laurel's *Living on the Earth*. —J.D. Smith

“Once I didn't practice immunization of my children. After almost losing a child to whooping cough, I've totally changed my mind on that issue, and now my babies get shots against diphtheria, tetanus, and whooping cough (the famous DPTs); the oral medicine against polio; and the 3-in-1 against hard measles, German measles, and mumps just as soon as the doctor allows.

Now it makes me so upset to see advice in otherwise sensible and useful books and newsletters telling women that immunization is more risky than the disease. That's totally false! And it makes me furious to read that for whooping cough, you're supposed to give a “decoction of garlic and thyme” and “apply clay poultices on the back of the neck, wheat bran—climbing ivy poultices on the solar plexus,” etc. What baloney! Absolute, total baloney! I know these writers never had a child with whooping cough, or they'd have offered more realistic advice. How irresponsible of them to presume to give advice that's not based on experience to trusting mothers faced with true risk of their child getting a desperately serious disease.

**Homemade olive press**



“Kudzu: This aggressive, leguminous vine (*Puereria thunbergiana*) is Asian in origin but has now virtually taken over certain Appalachian areas. It looks, grows, and sprawls somewhat like a giant squash plant. Kudzu has one compensation: It produces very large, edible tubers. I wouldn't plant the stuff on purpose, although it is touted as erosion control. It's true; once kudzu gets established, nothing much gets through to the soil. But *be cautious* and control it by clipping the runners back so it doesn't take over the state and so you don't get sued by all your neighbors for letting loose such a nuisance on them. In some places, people also harvest the greens for hay and forage. Here's how to cook the tubers.

Kudzu tubers have yellowish brown, fibrous outer peels and white flesh inside. Smaller roots have better flavor. All of them are somewhat on the bitter side. They aren't long on vitamins but are a starchy food like potatoes. *Peel them and discard the peels before cooking.* You can then boil them like potatoes and serve mashed with soy sauce; or make vegetable sticks of them and cook in any stir-fry; or slice thin and saute in a Chinese recipe; or grind, dry, and grind again to make a powder comparable in function to cornstarch; or steam.

Shoot here

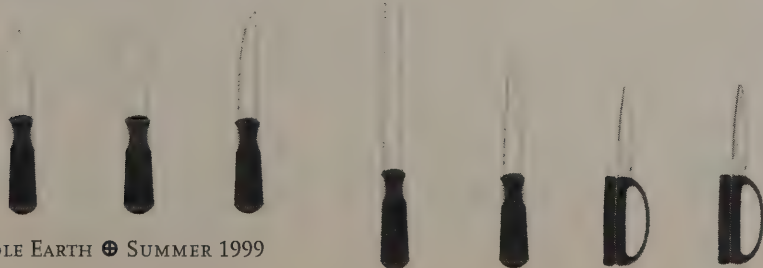


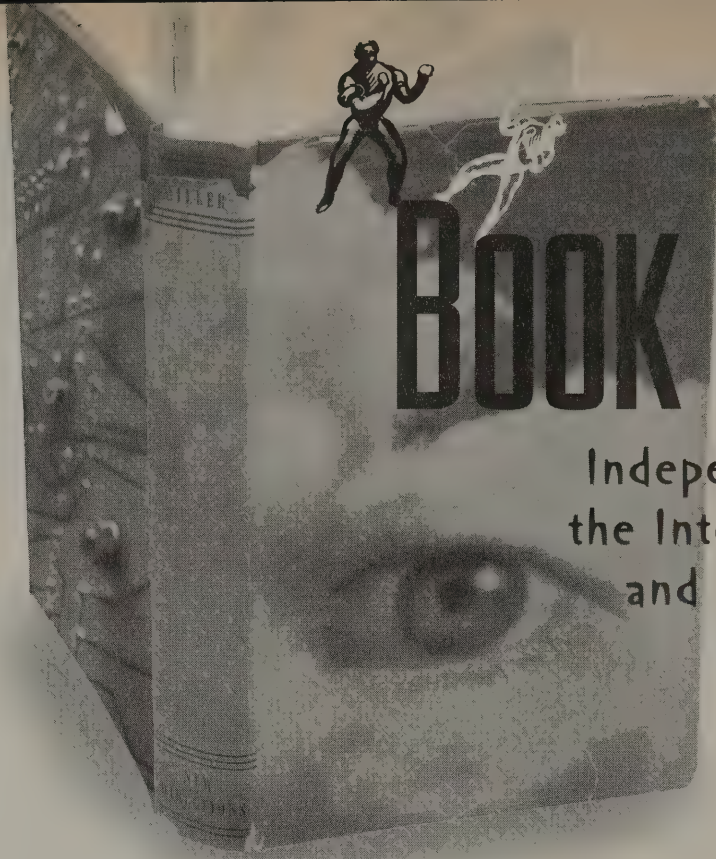
**Oxo GOOD GRIPS**

\$3-\$20 at houseware and hardware stores. Oxo International, New York, NY. Call 800/545-4411 for outlets in your area; www.oxo.com.

Ham-, arthritic-, big-, small-, right-, and left-handed folks will find unexpected comfort in Oxo's ergonomically contoured Good Grips kitchen tools. The fat (and squishy, on

some items), nonslip handles are especially welcome on can and jar openers. The extensive line includes graters, three ice-cream scoops, a lemon zester, and the best veggie peeler I've ever used. My tiny-handed wife has abandoned a drawerful of knives for Oxo's ultra-handny Mini Chef's Knife. It's a pleasure to see things done so well and handsomely. —JB





# BOOK BRAWL

Independent Bookstores,  
the Internet, Chain Stores,  
and Discount Houses  
Duke It Out

have been widely read if it were not for the support of this network of independent bookstores.

As we reach the end of the twentieth century, perhaps the greatest shock

is that these privately owned neighborhood bookstores, so key to the health of literature in the United States, are dying.

## Under-the-Table Deals?

The problem began in the 1970s when the first wave of chain bookstores (B. Dalton, Waldenbooks) brought thousands of quick-profit mall stores into competition with traditional neighborhood bookstores. The result: 1,000 of the 7,000 independent bookstores in the United States closed down within the decade.

With more chains, department stores, and price clubs in the 1980s (Crown, Walmart, Costco), and the most recent wave of chain superstores with CDs, videos, and cafes, in the 1990s (Barnes & Noble, Borders), a few thousand more independent bookstores have gone under, bringing the total number of independents (according to the American Booksellers Association) from 5,132 in 1991 to about 3,200 today, many of them teetering close to bankruptcy.

What no independent can compete against are the alleged illegal discounts and under-the-table deals that independents believe publishers have been giving the chains from the start. The courts have agreed with independents in two separate lawsuits, but abuses continue, according to allegations in the American Booksellers Association's own lawsuit, set for trial next year.

BY PATRICIA HOLT

One of the shocks to emerge in recent years from the book industry is the fact that blockbusters such as *Angela's Ashes* and *Cold Mountain* almost didn't make it into America's consciousness.

These books hit best-seller lists, publishing experts agree, because of thousands of privately owned, independent bookstores around the country that discovered them and spread the word. Everything else followed far behind in terms of stimulating the books' early sales.

One would think that these neighborhood bookstores—their numbers so diminished and their efforts so embattled in the “bookstore wars” of recent years—would be celebrated by publishers for saving such worthwhile books from obscurity. Instead, independent bookstores are increasingly abandoned by publishers as a kind of dying breed, as though they have already been Starbucked, Costcoed, and Amazoned right out of existence.

One would think independent bookstores have played no historic part in preserving the best of American literature. And yet, noted modern writers who were once unknown—Toni Morrison, Amy Tan, Anne Lamott, Ethan Canin, Alice Walker, Dorothy Allison, Cormac McCarthy, Barbara Kingsolver, Charles Johnson, and many others—would never

Where do you throw your literary weight?

As a consequence of the chains' success, the percentage of books sold by independents has fallen disastrously. According to the Book Industry Study Group, in 1991 independent bookstores accounted for the largest share (32 percent) of the book market. Today that percentage has dropped to 17.2 percent, leaving independents in third place, below chain bookstores (26 percent) and price club/department stores (20 percent).

### Enter Amazon.com

By 1998, Amazon.com (launched in 1995), the first of the snazzy, reader-friendly bookselling Web sites, had begun to pull ahead of chain book superstores in sales while at the same time its stock price soared at unprecedented rates. By mid-April 1999, although Borders and Barnes & Noble kept showing declines, the stock of Amazon, which has never shown a profit and loses millions each quarter, was up more than 75 percent for the year.

The fun of browsing through Amazon's cyberstore with its virtual shopping carts, irreverent "customer comments," and alluring discounts (including the online moratorium on sales tax) has pulled many a loyal customer away from independent stores and onto the Web. Media adoration of "e-commerce" during the 1998 holiday season glorified Amazon and resulted in further hemorrhaging of independent bookstore sales.

A few cracks have opened in Amazon's armor, beginning with recent disclosures that this hip and "customer-centric" online marketplace has been taking money from publishers to place titles on its best-seller list and "recommendations" in such categories as "Destined for Greatness," without telling customers.

Amazon now tells readers about paid placements (on a hard-to-find page). Some customers seem to have lost their loyalty along the way and often go searching for cut-rate imitators like [bestsellersforless.com](http://bestsellersforless.com).

### Enter Bertelsmann

The bookseller wars are chaotic and damaging enough, but at least the separation between church and state (publishing and bookselling) remained sacrosanct—that is, until last year, when two events brought the industry into cataclysm.

This occurred in the midst of the "merger mania" in New York that has reduced the publishing industry from thirty houses a few decades ago to about seven conglomerate firms today. Not only have foreign houses begun to dominate the scene, but Bertelsmann of Germany, the largest publisher

in the world, has initiated a series of takeovers with horrifying repercussions.

Last year, though it already owned Bantam Doubleday Dell, Bertelsmann acquired Random House with all its many imprints (Knopf, Pantheon, Crown, Times, Ballantine, Vintage, Villard, Fawcett, etc.), then proceeded to buy one-half of [barnesandnoble.com](http://barnesandnoble.com), the online division (and competitor to Amazon) of Barnes & Noble.

Wham! What had been feared before, that publishers were cozying up to booksellers in compromising ways (asking chains to approve jacket illustrations, flap copy, even the authors' texts), seemed frighteningly real. Piling all the imprints together under the Random House imprint, Bertelsmann controlled more than a fifth of the publishing market; now its investment in Barnes & Noble meant Bertelsmann controlled a major player in the book-selling side as well.

And then, wham! again. Barnes & Noble announced its intention to buy Ingram, the largest book distributor in the country, whose main clientele up to that point had been—ta da!—independent bookstores. This meant that Barnes & Noble would have access to the financial records of competitors it was mowing down right and left, and also have the power to direct sales of best-selling books to itself first. A nationwide protest of the Ingram purchase has brought thousands of letters and calls to the Federal Trade Commission, which has the authority to approve or disapprove the sale. (Industry observers think the FTC will approve it when it makes its decision later this year.)

Wham! Wham! Wham! With the decline of independents, publishers are cutting back on the sales representatives who visit each store to present the publisher's list of upcoming books to the store's buyers. This means that books by unknown or highly literary authors will not be explained to store buyers in a way that would inspire the staff to read them, promote them, hand-sell to customers, and get word-of-mouth going [see sidebar].

### The Tide, She Changing

In the last few years, independents have joined together to sue the pants off the chains; create their own Web sites to compete with Amazon [see access]; "brand" consumers' consciousness with "Book Sense," a branding and marketing campaign for independents that will also offer a national gift-certificate program that operates like FTD; fight the Ingram sale; and, by god, make a stand.





Whole Earth designer Monika Olson at 17, helping in her parents' independent bookstore.

### Kepler's Books

Who's looking out for literary books? Let's visit the "Buyer's Choice" bookcase at Kepler's Books in Menlo Park, California. Buyer's Choice is one of those great ideas that an independent bookstore like Kepler's can implement with amazing efficiency and, yes, with discounts and profits for all. The books displayed here are not necessarily potential best-sellers or hot tips or gift books. They are literary books of tremendous adventure and intelligence and fun, many of them chosen by Kepler's buyer, Karen Pennington.

Karen talks about these books with passion and knowledge. She fingers the pages she's quoting, hugs a book to her body. She points admiringly to the author's photo so you can see the real person behind all the words. She runs her fingertips lovingly across the cover illustration as if to say: This is a doorway to the world, or a potential doorway, and if the book doesn't immediately grab you, why, take a look at this one and this one and this one

over here.

So now: Posterity wants to know. When is a book right for display in the Buyer's Choice section? Is it instinct or personal taste or literary standards or prophetic wisdom? "A lot of the time I depend on the way publishers' sales representatives sell me the upcoming titles each season. I've worked with them for years. I rely on their judgment." It turns out that the very two books that are now legendary as independent booksellers' discoveries—*Cold Mountain* and *Angela's Ashes*—got their start in Kepler's as Buyer's Choice selec-

tions. Karen's story about how these books were sold to her in the beginning brings the whole conversation back to the way literature finds its audience in the United States today.

"David Hodnett of Publishers Group West [which distributes Grove/Atlantic, publishers of *Cold Mountain*] always pulls advance galleys out of his bag and hands them to me as he presents the list of titles for the new season," says Karen. "In the case of *Cold Mountain* he gave me the reading copy, and I put it on a stack behind my right shoulder.

"Now the thing about sales reps is that they always watch the buyers—they come in and [size up] the office with the same kind of scrutiny they use to figure out the buyer's patterns. If they want the buyer to look at a particular galley, they have to make a special presentation.

"At the end of that session, David stood up and leaned over my desk, put his right hand on the top of my head and used his left to reach back to the stack behind me, where he pulled out *Cold Mountain* and held it in front of my eyes.

"Read it," he said. "I want you to read it. Where's your purse?" He found my bag

Do they have a chance? Here are some reasons even skeptics believe the "day of the independent bookseller" may yet see a comeback

1. **FAMOUS AUTHORS** such as Barbara Kingsolver, Larry McMurtry, and Adrienne Rich are speaking out in support of independents by writing letters to newspapers, making speeches, appearing on radio and television.
2. **WHO LOVED YA (FIRST), BABY** campaigns (my term but that's what they are) have started up among independents to educate authors like Frank McCourt (*Angela's Ashes*) and Stephen King to stop appearing in television ads promoting Barnes & Noble.
3. **FRIENDS OF THE BOOKSTORE** groups are sprouting to help independents bring in donations, host benefits, offer lectures, present authors, and conduct classes, book clubs, writers' groups, etc.
4. **PLANNING COMMISSIONS** and **CITY COUNCILS** are beginning to deny petitions by chain bookstores to locate 25,000-square-foot super-stores in areas where they would compete unfairly with independents.
5. **NONPROFIT AND PROFIT-MAKING COMBINATIONS** are being built into independent booksellers' financial statements so that the many ser-

vices these stores have provided for free can bring in new income.

6. **REDEVELOPMENT MONEY** is being directed toward independent bookstores to help revitalize seedy areas and give the independents a chance to compete.

7. **COMMUNITY CENTERS** are forming with space for galleries, theaters, computers, cafes, conference rooms, and, at their core, independent bookstores.

So let's all slow down and remember this wonderful tradition of independent bookselling. Let's just get out of the fast lane and recognize that the human element (conversation, selection, trust, opinion, love of reading, expertise, community involvement) has always been a staple of the neighborhood independent bookstore.

You think independents are whining? "This is a war," writes one bookseller, referring specifically to Barnes & Nobles' purchase of Ingram, "and every book sale by Barnes & Noble is a bullet at us, and every book sold by an independent is a bullet at Barnes & Noble."

As they say on TV (that old dinosaur): "Are you

and put it in. "Read it," he said again. I told him I would, and when I started it that night, I went chuckamuck! It was fabulous. So I called David the next day, raised my order, and turned it into a Buyer's Choice item. That one galley went through fifteen pairs of staff hands, so we had energy going before it ever hit the sales floor."

In retrospect, it was a momentous occasion, yet the economies of scale are nowhere near those of a chain store or Internet buyer. After all, an initial buy by Karen Pennington might be fifteen copies of a book. It's no big deal as a starter, but the momentum initiated by David Hodnett's risky and aggressive demand (he had never talked to her like that before, says Karen) would lead to a sale of many hundreds in Kepler's alone, and of many thousands, and soon hundreds of thousands, in other independents early on.

It's important to remember that the chains either missed or "bought low" on *Angela's Ashes* and *Cold Mountain*, which means that a thousand stores were letting these two books slip through the cracks while independents kept them alive.

So the lesson we learn over and over again in book publishing is true for book-

*selling*: democracy is in trouble when fewer and fewer people decide what books are available for Americans to buy.

The decision of a single buyer at a chain store's headquarters to purchase the same list of books for all 500 stores is rarely reversible ("we have no recourse!" publishers rightly wail). However, with 500 individual buyers purchasing books at 500 independent stores, the chances are 500 times greater that good books will be given their fair shot.

If you think that readers do NOT want help with their selections, as chain stores and Internet suppliers contend, you're missing the point. Yes, millions of readers love the idea of roaming around a warehouse; of football fields full of books; of a Toys "R" Us feel; of easily tracked sections and subcategories; of shopping carts and privacy in the aisles—until, that is, their spouse develops Alzheimer's and they're desperate for the "right" book to know what to do, how to think.

Or their 10-year-old has stopped reading, and on the wall of children's books facing them, they haven't a clue how to get the kid started again. Or their mother has just died, or they haven't read anything really

gripping for years, or they miss that Scandinavian mystery writer they got hooked on ten years ago. Then they want advice from somebody who knows how to find the best of the books available, and this advice, this trust, is the way books gain the kind of reputation that keeps them in print for months and years.

It's all part of a process that begins in a buyer's office at an independent store like Kepler's. There the buyer-sales-rep relationship is so classic, it's like the key piece of the mosaic slipping into place.

This is where literature resides in America today, but oh, what a fragile place of residence it has become. —PH



ready?" Because that's just the opening salvo.

So here's how you can become a foot soldier in the war to preserve the heartfelt caretakers of American literature:

1. Pledge to buy *nothing but books* as gifts for every holiday; concentrate your shopping at one or two or a handful of independent bookstores and *never set foot in a Barnes & Noble or Borders store again*;

2. Seek out the best Web sites of independent bookstores and *never order from Amazon.com again*;

3. When in doubt, *buy big gift certificates* right now at your local independent—this helps finance the store (cash flow is the hardest problem for any retailer right now) and brings in more walk-in traffic.

4. Join a *Friends of the Bookstore group* if you can find one, and if not, start one.

5. *Attend autographings* and other in-store events.

*Do you love your neighborhood?* Then love that neighborhood bookstore, because if you don't, it's not going to be there tomorrow. ❀

Patricia Holt, former book editor and critic for the *San Francisco Chronicle*, currently writes an email column called "Holt Uncensored," distributed free by the Northern California Independent Booksellers Association ([www.nciba.com](http://www.nciba.com)).



## Access to Independents

### AMERICAN BOOKSELLERS ASSOCIATION

828 South Broadway,  
Tarrytown, NY 10591.  
800/637-0037, 914/591-  
2720, [info@members  
.bookweb.org](mailto:info@members.bookweb.org).

The national not-for-profit trade organization of independent booksellers. Check their Web site for updates on their suit challenging the Ingram-Barnes & Noble merger. ABA coordinates the Book Sense cooperative marketing program (call 888/266-5736 for access to local member stores).

### WWW.BOOKSENSE.COM.

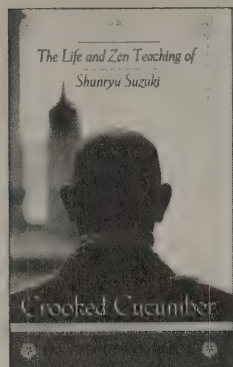
The independents' online challenge to Amazon.com,

et al., is scheduled for launch in August. Centralizing databases and fulfillment will allow the independents to challenge the selection and speed of the megasites.

### NORTHERN CALIFORNIA INDEPENDENT BOOKSELLERS ASSOCIATION

5643 Paradise Drive, Suite 12,  
Corte Madera, CA 94925.  
415/927-3937,  
[office@nciba.com](mailto:office@nciba.com),  
[www.nciba.com](http://www.nciba.com).

A good regional association, in the nation's second largest book market. Their Web site includes a regional directory, lists of best-sellers at independents, and "good reads" recommendations.



**CROOKED CUCUMBER**  
The Life and Zen Teaching of Shunryu Suzuki

David Chadwick. 1999; 432 pp. \$26. Broadway Books.

Shunryu Suzuki-roshi came to San Francisco from Japan in 1959 when he was 55, fulfilling a lifelong dream. Before he got

here, Zen was an idea, not a practice. He made it stick. He taught Americans to sit zazen; founded Tassajara, the first Zen monastery where women practiced as (almost) equals; and forever altered our cultural landscape. Just how remains a mystery. In Japan, he was an ordinary country priest, in a dying religious tradition, with an almost moribund temple. He needed his American students as badly as they needed him.

This subtle and generous biography, by a "loose cannon" among Suzuki's early students, helped me understand the forces that shaped Suzuki in Japan, and how, before he died of liver cancer in 1971, he transmitted to Americans something both within and beyond both cultures. The book snuck up on me, much like the Soto Zen tradition, which emphasizes zazen and the awareness of everyday things rather than dramatic breakthroughs. (As Suzuki's successor Richard Baker once said in a ceremony, "Walking with you in Buddha's gentle rain/Our robes are soaked through.") *Crooked Cucumber* is a deceptively unassuming introduction to Zen tradition and to Suzuki, mostly through his own words, liberally scattered through its pages ("Life is like stepping onto a boat that is about to sail out to sea and sink"). It made me want to sit again, to wholeheartedly live my life with all its difficulty, and more than that: to be flexible and kind. —Katy Butler

Above right: Shunryu in monk's pilgrimage gear, c. 1930.

Below: At the City Center, San Francisco, c. 1970.



“Suzuki had again crushed a finger while resetting stones, this time at the base of a wall at Tassajara. It swelled up and turned purple. Bob Halpern drove him to Carmel, making a special effort to sit straight and not talk for the first few miles, but then he started asking Suzuki about Buddhism and vegetarianism. Suzuki promptly went to sleep.

The finger wasn't broken. The doctor drilled into the nail to relieve the pressure, wrapped it up, and told him to keep it high.

Walking past the Carmel boutiques, Suzuki said to Bob, "Let's eat, I'm hungry." Bob started looking for a restaurant where they could get a vegetarian meal. "Let's eat here," said Suzuki, going into a little hamburger joint while Bob mumbled, "But, but..."

Bob studied the menu with horror. "You haven't had any meat in a long time, have you?" Suzuki said to him.

"No, Roshi, not in two years. No animal food. No dairy and eggs."

"That's very good," Suzuki said as the waitress walked up. "You order first."

"I'll take a grilled cheese sandwich." It was the best he could do with that menu.

"Hamburger please," said Suzuki, "with double meat."

Their food arrived and they each took a bite. "How is it?" asked Suzuki.

"Not bad."

"I don't like mine," Suzuki said, "let's trade." With that he picked up Bob's sandwich and replaced it with the double-meat hamburger. "Um good. This is good. I like grilled cheese."

“When you are fooled by someone else, the damage will be not so big. But when you are fooled by yourself, it is fatal. No more medicine.

“I bowed, hands together, and caught his eye.

“Hai?” he said, meaning yes.

“Suzuki-roshi, I've been listening to your lectures for years,” I said, “and I really love them, and they're very inspiring, and I know that what you're talking about is actually very clear and simple. But I must admit that I just don't understand. I love it, but I feel like I could listen to you for a thousand years and still not get it. Could you just put it in a nutshell? Can you reduce Buddhism to one phrase?”

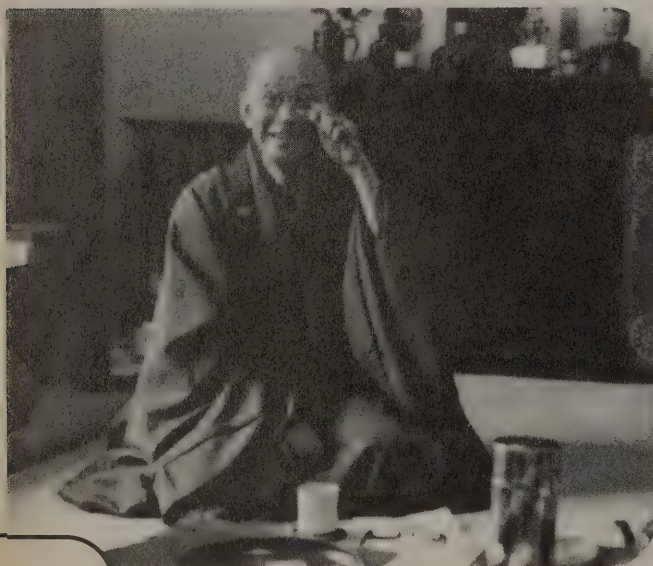
Everyone laughed. He laughed. What a ludicrous question. I don't think any of us expected him to answer it. He was not a man you could pin down, and he didn't like to give his students something definite to cling to. He had often said not to have “some idea” of what Buddhism was.

But Suzuki did answer. He looked at me and said, “Everything changes.” Then he asked for another question.

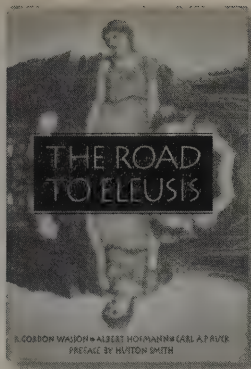
“Bob Halpern's hand shot up at the end of Suzuki's first lecture. Bob had been coming up from L.A. to the August sesshins at Sokoji for a couple of years, and now he was at Tassajara. Bob was always trying to be a model student, fanatically attempting to do everything right, and tripping over himself in the process. Suzuki had a soft spot for him because of his enthusiasm and mischievousness.

Bob asked if it might not be good for Tassajara to have more rules, like monasteries in Japan. For instance, people were using the baths outside the scheduled time, and there was a lot of talking going on there. Like an amoeba dividing, the room polarized. There were serious nods and exasperated exhalations.

“Yes, rules are important,” Suzuki said. “And if there are rules, you should just follow them. But if there is no rule you don't necessarily have to make one.” He paused. “Hmmm...yes...rules...good... we need some rules.” Then he looked around with a twinkle in his eye and fixed on the corner of the room. “Ah, see that broom over there? It's standing on its bristles. That's not so good for the broom. The bristles will bend, and it won't work so well or last so long. There—that's a good rule.”







## THE ROAD TO ELEUSIS Unveiling the Secret of the Mysteries

R. Gordon Wasson, Albert Hofmann, and Carl A. P. Ruck. Twentieth-anniversary issue, 1998; 149 pp. \$50 (\$55 postpaid). Hermes Press/William Daily Rare Books, PO Box 69160, Los Angeles, CA 90046. 323/658-8515, Antiquare@aol.com.

This seminal book, long out of print—and extremely difficult, and expensive, to find—has been brought back into print, with new essays added, in a beautiful hardback edition by the Council on Spiritual Practices. The book is well made, aesthetically pleasing, and significant.

Wasson, the founder of ethnomycology, Albert Hofmann, the discoverer of LSD, and classicist Carl A. P. Ruck collaborate here to

propose that ergot was the secret of the *kykeon* drunk at the Eleusinian Mysteries. While this assertion, as far as I know, is still awaiting support by successful fieldwork, *The Road to Eleusis* builds a very strong case on the basis of the Eleusinian texts and Hofmann's chemical analysis.

*The Road to Eleusis* clearly underscores the importance of entheogens in archaic religion. Perhaps the passage of twenty years, and the arrival of a new generation of scholars, will give this book the hearing it deserves. —Dale Pendell

not. As we all know, ergot differs in its chemical constituents according to its host grass and according to geography. We have no way to tell what the chemistry was of the ergot of barley or wheat raised on the Rarian plain in the 2nd millennium B.C. But it is certainly not pulling a long bow to assume that the barley grown there was host to an ergot containing, perhaps among others, the soluble hallucinogenic alkaloids. —Albert Hofmann



Caryatid from Eleusis, bearing the sacred *kiste*, the sealed hamper containing the Mystery's ritual objects.

“We analyzed ergot of wheat and ergot of barley in our laboratory and they were found to contain basically the same alkaloids as ergot of rye, viz alkaloids of the ergotamine and ergotamine group, ergonovine, and sometimes also traces of lysergic acidamide.... Ergonovine and lysergic acid amide, both psychoactive, are soluble in water whereas the other alkaloids are

“The ancient testimony about Eleusis is unanimous and unambiguous. Eleusis was the supreme experience in an initiate's life. It was both physical and mystical: trembling, vertigo, cold sweat, and then a sight that made all previous seeing seem like blindness, a sense of awe and wonder at a brilliance that caused a profound silence since what could be seen and felt could never be communicated: words were unequal to the task. Those symptoms are unmistakably the experience induced by an hallucinogen.



## PLOUGHING THE CLOUDS The Search for Irish Soma

Peter Lamborn Wilson. 1999; 150 pp. \$14.95. City Lights.

Hymns of praise for Soma are central to the Rg Veda, the oldest literature of the Indo-Europeans. Students generally agree that Soma is a plant (if we include mushrooms), a consciousness-changing experience, and also the ritual

of ingesting the substance that releases that experience. Parallels to the Soma ritual are found in the Haoma rite of the ancient Iranians and among the Greeks. The identity of the Vedic Soma plant has always been a matter of scholarly dispute, but Gordon Wasson presented a strong case that Soma was a psychotropic mushroom, *Amanita muscaria*.

Younger scholars have proposed other identities for Soma, including *Peganum harmala*, *Psilocybe cubensis*, and ergotized grain, or some combination of them. After Wasson, only strongly “entheogenic” plants have been considered viable candidates. Attempts to pin down the identity are made more difficult by the use of “Soma substitutes,” a documented practice of both the Indians and the Iranians. There is additional evidence that Soma was a mixture of several plants. And what if a migrating people found

themselves in a new locale lacking their sacred plant, but with people using a different plant?

Peter Lamborn Wilson jumps into this swirl to look for Soma in the Celtic branch of the Indo-Europeans, where even Wasson claimed it could not be found. Wilson's primary focus is on *Amanita muscaria*, but he acknowledges that the essence of Soma is a function—a particular ritualistic shape and dynamism, a particular mythic position—rather than a particular plant.

The trail of Soma evidence among the Celts is thin, and Wilson's methodology is really more that of Robert Graves than of Wasson. Material evidence lacking, he teases the Soma signature out of Irish folktales with acumen and flourish, connecting these tales not only to other cultures of Old Europe and India, but also to our own political and social situation. Whether or not the final signature says “*Amanita muscaria*,” it clearly enough says “Soma,” in its most general and functional aspects. —DP



futile task, an impossibility.” For me, however, it evokes another image—from the Rg Veda—of the clouds that release Soma to fall like rain on a parched humanity. To plough the clouds—to analyze the ineffable—would be the kind of paradoxical act that might once again, after all the loss and forgetting, revive the earth and cause green things to grow.

“The Soma-sacrifice “is” Soma because he is an intoxicated god; he offers the oblation (he obliterates) Soma as sacrifice to the intoxicated god who is Soma himself: a continual circulation or ourbours of Soma from itself to

itself, from disappearance to reappearance, from theft to rescue. From the pure light of this whirling mandala emerges the Logos, the word of words, the magical formula that links self and Self, poetry as the obliteration of all semantic traps and the restoration of language as divine intoxication, poetry as joy.

““Ploughing the Clouds” is an old Irish expression meaning “to undertake a

According to Gordon Wasson, the one-footed monster stands for magic mushrooms.



**THE TEMPLE OF MAN**  
Apet of the South at Luxor

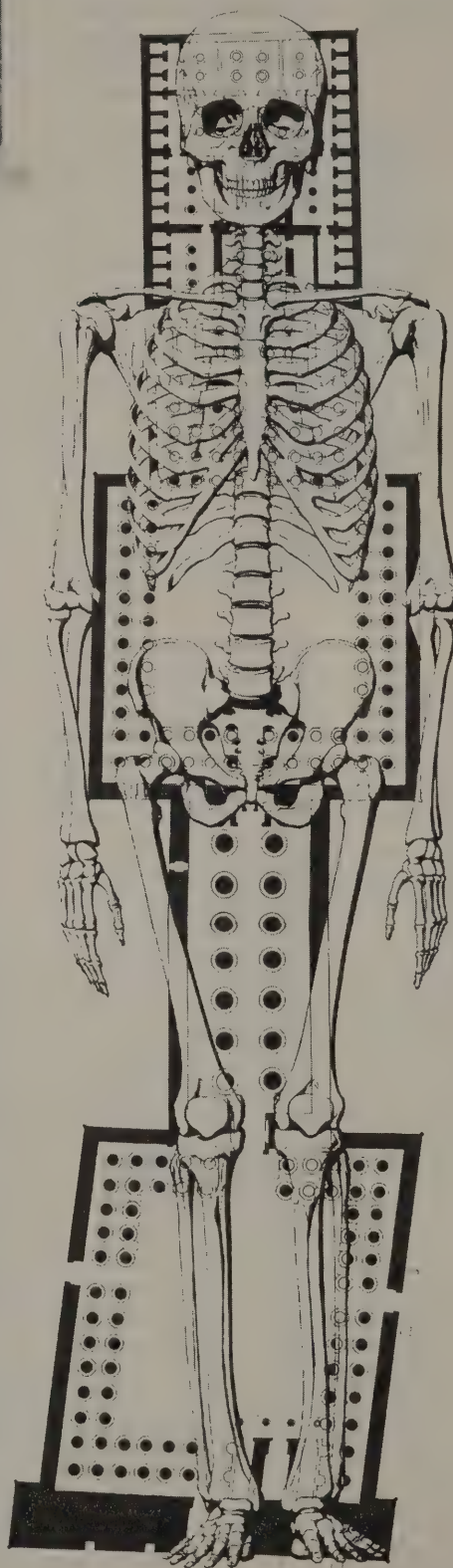
R.A. Schwaller de Lubicz. 1998; 1048 pp. \$195. Inner Traditions.

The price here should be sufficient warning: casual readers need not apply. This first English translation of Schwaller de Lubicz's 1957 magnum opus may offer as complete an insight into the mind of pharaonic Egypt as will be found on paper. The author attempts, in rational words, to convey the substance of an esoteric, non-rational worldview whose language is gesture and geometry. Volume 1 traverses metaphysics, medical knowledge, geometrics, and especially mathematics. Volume 2 is a stone-by-stone elaboration of Schwaller de Lubicz's thesis that the Temple of Man at Luxor—in its bas-reliefs, sculptures, measurements, proportions, and orientations—as a whole and in each of its parts, constitutes a “library” in which to read *and experience* the mental world of its builders.

One example: the mathematics here is simultaneously concrete and mystical. It has no concept of infinity, because infinity is an abstraction, and because “What is unknowable [infinite] is precisely the Original Cause, and this equals One: the Unique Absolute containing the whole Universe.” For the same reason, all fractions but  $\frac{2}{3}$  have as their numerator this same One (represented by the same hieroglyph as Ra, the sun).

Schwaller de Lubicz, who believed that Egypt, not Greece, was at the foundation of western civilization—that Greek rationality was Egyptian thought in a decadent stage—was controversial. His translators call him an “archiconoclast.” Coming to this worldview from our mindset places serious demands on the reader. But the book is both dizzying and transporting, offering the possibility of immersion in another world, cleansing the mind and clarifying the extent and the limitations of our own mental tools for grasping our world. —MKS

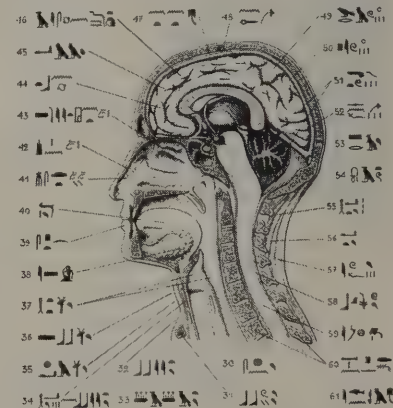
Below: A skeleton with average human proportions projected onto the temple's layout. Functions, images, and inscriptions found in each of the temple's divisions relate to corresponding organic and occult centers of the human body (as well as to phases of human growth, as well as to zodiacal symbols). The layout does not follow a straight line; successive sections are oriented to different axes with differing geometrical/mystical meanings.



“All pharaonic Egypt, from beginning to end and in all its achievements, is but a ritual gesture.

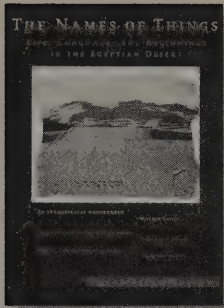
“It does not appear that the ancients looked for a “common measure” governing their canon....Let us recall that in acupuncture, the Chinese employ a different unit of measure for each part of the body, as for example, a certain phalanx of the finger for the limbs, the distance between the breasts for the trunk....Comparatively, after a study of pharaonic figures, it is certain that neither the height of the head nor length of the hand, for example, served as a “common measure” for the whole body. The pharaonic canon is more supple and closer to life.

“Our mental disposition looks for “invariance,” for the rigid, rational scheme upon which, taken as a firm foundation, we attempt the construction of our mental edifice. Pharaonic thought refuses to build on such an invariable base because life is moving and progressing. Destruction and death are likewise *moments of life*....There is a simultaneity of time and appearance in the phenomenon; the phenomenon is a *trompe-l'oeil*, and because one knows it, and never forgets it, one can be practical and realistic without danger.



“...To this is added a complete architectural *grammar*, represented by the shape of the stone blocks: their joints, overlappings, and “transparencies” and “transpositions” in the walls comprise a subtle grammar in which the finish of a carving or its rough aspect, the absence of essential parts—such as the eye or the navel—the reversal of right and left, and so forth, play the role of accents, declensions, conjugations, and conjunctions.

Far right: A papyrus dating to perhaps 3500 B.C.E. shows Egyptians' knowledge of anatomy and the effect of specific head injuries on particular parts of the body.



### THE NAMES OF THINGS Life, Language, and Beginnings in the Egyptian Desert

Susan Brind  
Morrow. 1998;  
230 pp. \$13.  
Riverhead  
Books.

Susan Brind Morrow took a first, hesitant trip to the Western Desert when she was in college...and came to experience the chaos, decay, and extraordinary beauty of Egypt as a second skin. She traveled there many times in the next decade; *The Names of Things* is both elegy for and celebration of the land that changed her.

There is intense poignancy here, such urgent affection for the people and the land that your heart must grow as you read, to absorb the unconfined generosity, the limitless possibilities within squalor—and, always, the language. Morrow discovers and redefines the meaning of words, expands the parameters and the sources of language. She transliterates: little glowing moments in the book that galvanize the written word. She unleashes language from our Teutonic

constraints...teaches us that no word can capture the concept of "flame," and that flame can mean many things; that words have "legs," consonant constituents that instantly betray their sources and their fate.

The book slips in and out of the textures of Egypt and the Sudan—their languages, souls, cities, and deserts—with a tranquil cadence that floats over the page. Morrow unblinkingly reflects the disintegration that consumes that part of the world; the rot of Cairo, the merciless life struggle in the eastern Sahara. But she exposes, too, the layers of exquisite harmony between what is out of control and what works, between the stench and the lavender dawns over Shubra.

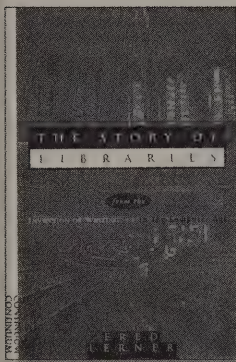
*Il dunya helwa, helwa.* The world is beautiful, beautiful. *The Names of Things* is a vernal pool, there when you thirst for language or imagery or the near-painful brink of discovery. —NP

“To read Greek is to know how to look at a word on a page, to examine a word long before you know what it means. You are looking at the bones of a language. There are words, I would say, that have a tactile quality, like phrix, the stiffening of water in the wind, or the skin in fear.

Such a word belongs to the vivid imagery of the early poets, with their desperation to pin a thing down with metaphor, something alive: the shrill reed pipes that were the hissing of serpents on the abruptly severed, dying head of Medusa, or arose from Syrinx, the wood spirit transformed into a bed of rushes as Pan caught and crushed her, and the wind came shrieking through.

“In Ramses Station the air is dense with noise, voices, movement, the heavy undercurrent throb of the engines of standing trains.

Shafts of evening light thick with dust slant down from the high windows into the dirt-encrusted halls. Lean dark peasants in pastel gowns carry urban plunder on their heads; ghetto blasters, sewing machines. Soldiers are everywhere, either posted with Kalashnikovs around the station or off duty and heading for their distant village homes in third-class night cars. Gnarled old porters in blue slip silently through the crowd like fish in dark confusing waters. A group of pink tourists stands frozen as though shrinking together against the stream.



### THE STORY OF LIBRARIES From the Invention of Writing to the Computer Age

Fred Lerner.  
1998; 246 pp.  
\$24.95.  
Continuum.

The written  
word survives.  
Library collec-

tions, such as the one Mark Antony gave to Cleopatra in 41 B.C.E., have paralleled human endeavor since the Sumerians pioneered record keeping on clay tablets (many thousands of which have survived, first in the arid climate of Iraq and now in temperature-controlled facilities at museums and universities). Lerner's thoroughly researched book, with an extensive bibliography and index, reveals how keepers of records, religion, and knowledge developed storage-and-retrieval methods as the print medium evolved from clay to bamboo, vellum, paper, and pixels. Along the way, he shows how cultures have used libraries and, in turn, been shaped by them. —Barbara Lekish

“The book rather than the user was still the focus of the 18th-century university library. Librarians were expected to have a wide knowledge of languages and of the literature of learning, but there was no science of librarianship...The librarian was often a poorly paid member of the philosophy faculty, who regarded his work in the library as a supplement to his meager salary rather than as a vocation in its own right. The operation of the library was a nuisance to such a man: at Halle in Germany, one librarian resigned his post rather than endeavor to keep the library open four hours a week. And in many universities the librarian was held financially responsible for loss or damage to the collection, hardly an incentive to maintain a liberal lending policy.

“Elbridge Gerry, a representative from Massachusetts, urged in 1789 that Congress establish a library of its own. But the *Boston Independent Chronicle* argued...“It is supposed that the members are fully competent for these purposes, without being at the expence of furnishing them with Books for their improvement.”

“Soviet public libraries were located in housing developments, factories, workers' clubs, and cultural centers. (Many were maintained by labor unions.) They provided extensive advisory services to their readers, in support of their role in fighting illiteracy and encouraging worker self-education. This also enabled libraries to steer their readers toward those books that enjoyed the favor of the party. Even their cataloging of the collection “must be based on the Marxist-Leninist outlook” and “subordinated to the principles of the Bolshevik Party.” A Russian revision of the Dewey Decimal Classification was prepared to remove the “rough deficiencies, flowing from the bourgeois outlook” of its American authors.

Below:  
Restored  
sixteenth-  
century  
library in  
Hereford  
Cathedral,  
England. To  
prevent theft,  
books were  
chained to  
rods above  
the shelves.



# FARMING ON THE EDGE OF CHAOS

*Special Section: Soybeans, the Heartland, and the Future of Agriculture*

When I first heard of “sustainability,” I thought it was about long-distance running. In high school, running on various New York City and Brooklyn cinder tracks, to endure, I’d try to pace my breath. There were four stages; four paces of differing breaths. The First Breath was personal, to position myself in the pack; make sure I wasn’t burning out too fast or stuck so far behind that it would take extra energy to strong-arm my way through the crowd or require a longer distance, passing others on the outer perimeter. The Second Breath was more steady and sturdy, a pace to keep my place and to judge the other runners, the track’s condition, the weather, all of it. If, for instance, you’ve planned a team race, choosing a fellow runner to win, then this is the point at which the team organizes; forming formidable cluster-blocks to slow down the opposition, or tricking the other runners to meet a super-fast pace too early. The Third Breath was of expectation; when to make the high-energy move, upping the pace ever so slightly, and judging how hard to pull ahead since there were always speedo “finishers.” I remember the Red Hook track: a lithe kid zooming past while I was still on my third breath and, whoops, I knew instantly, there goes the lead. The Fourth Breath fuels the go-for-broke sprint, bringing to force whatever is left. It’s where you see exactly what your total resources are and whether you judged your own and others’ resources usefully.

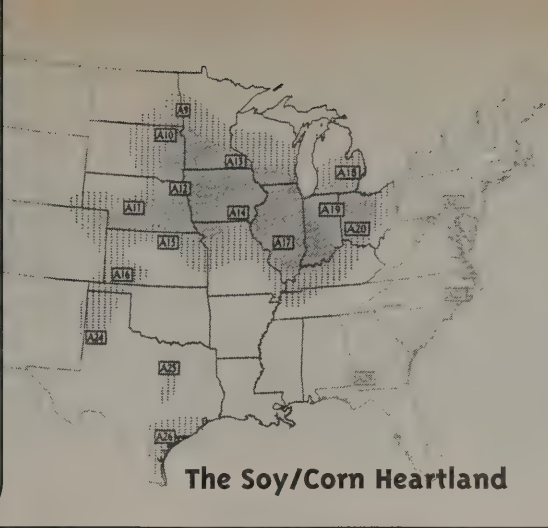
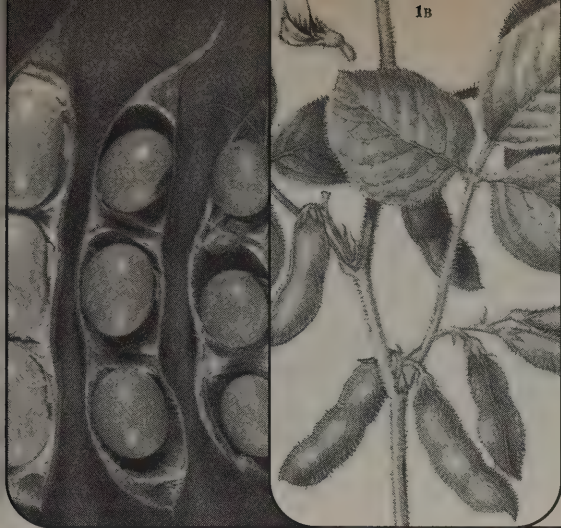
I cannot shake this “long-distance runner’s persistence-and-pace” commitment to what is now called sustainability. You can only do it on the track. Once running, you must be sure you don’t expend or hoard energy at the wrong point. You can’t make others adhere to your pace, or whine when they speed up. No one can control the race. Anticipate, yes. Dictate, no. And, in the world

bigger than Randall Island Stadium, you can’t win and do it alone. You hit the finish line and pass the baton to another generation, which goes its “long-distance,” and on and on. Sustainability is your personal contribution to graceful navigation and impeccable timing.

Lots of friends don’t want sustainability to be this tough, requiring endless training, competitive spurts, discipline, and resilience. Maybe it’s too much Brooklyn. That’s how I thought of it. Recently, sustainability has become gossipy, smoke-and-mirrors, divorced from the track. We see it, perhaps more than most, at *Whole Earth*. We receive so many books, conference notices, press releases, and videos promoting sustainability that, just to filter the classics from the pile of tomes, I ask: Can it make the long-distance run?

This in no way implies that sustainability is unimportant. Last month, I talked to a corporate group of breakfast-cereal marketeers and food technologists and asked them what they thought a sustainable future of grains and breakfast cereal might look like. They thought I meant, How do you design and produce a cereal with a more sustainable shelf life? A group of us tried to explain that about twelve years ago “sustainability” became an ideal and embryonic model for leaving the world as good as, if not better than, it is, for the coming generations. This addition of sustainability to breakfast-cereal strategic planning was a completely new concept. Our audience had rarely, if ever, thought of where the grains that become Cornflakes or Wheaties or Cheerioats came from or how they were farmed. They were no different from most consumers. Linkages lost.

All this—sustainable breath, long-distance pacing, too many books, and Midwestern innocence—inspired this section of *Whole Earth*.



The Soy/Corn Heartland

## SOYBEANS AND THE HEARTLAND

For this issue, soybeans, industrial agriculture, and the Heartland of America is where we run the long-distance race. In the Upper Mississippi Basin, farmers plant more seeds and the earth ripens more grains and oilseeds than almost any other place on the planet. Bi-coastal citizens fly over it or drive through quickly, though we all enjoy the T-bone or Toffuti that probably started its journey as soybean and corn seeds in the black soils of Iowa and Illinois. The Midwest is amazingly cosmopolitan; a globally matrixed cropland where wheat (originally domesticated in the Near East and Europe), corn (from Central America), and soybeans (from Manchuria) all grow side by side.

We thought: Sustainability is in early training for the long-distance run. It's got to fill out and show robustness and savvy, start on the tough track, prepare for, at least, the first twenty years. Maybe the starting line is in Port Cargill, near the confluence of the Minnesota and Mississippi rivers, in one of those 1950s-looking cafes, as we devour a bio-regional dessert like split bananas lathered in soy-based Miracle Whip topped by chopped peanuts, listening to the Corn and Soy Goddesses lay out the facts:

- The soybean has the highest protein content of any crop "grain" on the planet. In order to maximize the use of its meatlike personality, humans have

been inspired by soybeans (and co-dependent corn) to organize the most networked and extensive food-processing and distribution system ever to exist. If you're a vegetarian, then soy is a major source of your protein, in tofu, tempeh, maybe miso. If you're a human carnivore, soy is a major ingredient in your soy-fed breakfast bacon or soy-fed chicken with white sauce. If you're a pet, then you're eating canned tuna or dry pellets fortified by proteinaceous soy meal.

- Soy is the crucial protein oilseed. In human hands, anywhere from Peoria to Beijing, soy can act in the guise of angel or demon. Soy-texturized and soy-fermented proteins can impersonate angels saving hogs, chickens, and cattle from cruel and polluting factory and feedlot lives. Soy protein can appear as soy tofu or soyburgers; miso or fortified spaghetti sauce. Soybeans, if farmed right, produce protein equivalent to concentrated feed operations, and save energy and pollution costs and the soil itself.

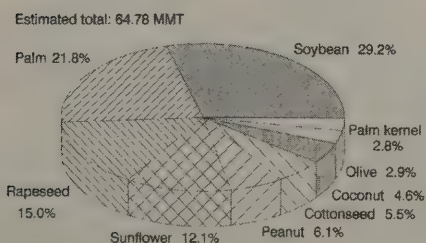
But, soy's protein is also devilish. Soy protein meal seduces meat suppliers to concentrate more and more livestock into smaller and smaller spaces; livestock no longer needs to graze to find adequate protein. Soy/corn fields substitute for the open backyard or range. Without soy meal, the industry would need to totally reorganize.

- Soy oil is the planet's leading edible vegetable oil. Soybeans contain more oil than any other crop except peanuts, and many people can't digest

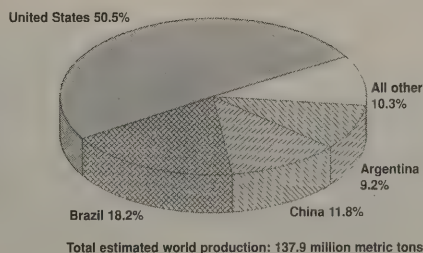
The CORN/SOY BELT includes Iowa, Illinois, Indiana, Ohio, and Nebraska, with smaller parts of Wisconsin, Minnesota, South Dakota, and Michigan. Stippled areas are minor growing regions. Boxes are weather stations.

SOY PLANT AND CORN ILLUSTRATIONS FROM *The New Oxford Book of Food Plants* (SEE REVIEW, PAGE 26). SOYBEAN PHOTO FROM *Modern Soybean Production*, 1970 (OUT OF PRINT).

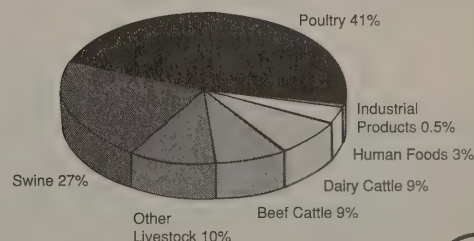
WORLD CONSUMPTION OF VEGETABLE OILS (1994/95)



TOTAL WORLD PRODUCTION OF SOYBEANS



SOY PROTEIN MEAL CONSUMPTION IN U.S.





peanut oil. So soy, once more, acts as an angel because poor people—moving to more adequate diets—buy cooking oil as their first luxury.

• *Angelic soybeans also promise a healthier “nutraceutical” future. They contain an anticarcinogen that may help reduce prostate and breast cancers; and a protein and other ingredients known to help fight osteoporosis, reduce kidney and heart diseases, and help women through menopause. If, once again, we can respect the power of plants as both nourishment and medicine, soy will undoubtedly be the major contender (see page 101).*

• *Soy is a relatively benign plant. It makes most of its own nitrogen nutrients, freeing it from the bane of petrochemical-fertilizer production and pollution. Because of its nitrogen-fixing abilities, it is almost always rotated with corn. The Corn Belt is actually the Corn/Soy Belt, and “monocropping” is actually a two-crop affair. Soy is subject to fewer diseases and pests than corn or wheat, and needs less pesticide. It grows with little or no irrigation, and has dozens of varieties specially suited for farms from Florida to the Canadian border. But, humans appear never to be satisfied and crop research has been on an accelerating quest to custom-design soybeans; maybe engineer the “perfect” bean, for more protein, fewer farts, less beany taste, whatever.*

In 1996, Monsanto marketed its first gene-spliced soybean. This Roundup Ready variety can withstand a deluge of Monsanto’s weed-killing herbicide. Lots of farmers enjoyed garaging their cultivators and plows; a few environmentalists admitted that it was an improvement over more erosive and toxic farm techniques. But some consumers and environmentalists, especially in Europe, became

outraged. Greenpeace dumped four tons of genetically modified US soy on the doorstep of Tony Blair’s headquarters with the sign: “Tony, don’t swallow Bill’s seed.” The US does not require labeling of transgenic (gene-spliced) soybeans. You have undoubtedly eaten some in the last month. A regional trade war with Europe has erupted over labeling. Almost every contributor to *Whole Earth* felt a need to discuss transgenic soybeans, biotech, and the next twenty years of what we will eat.

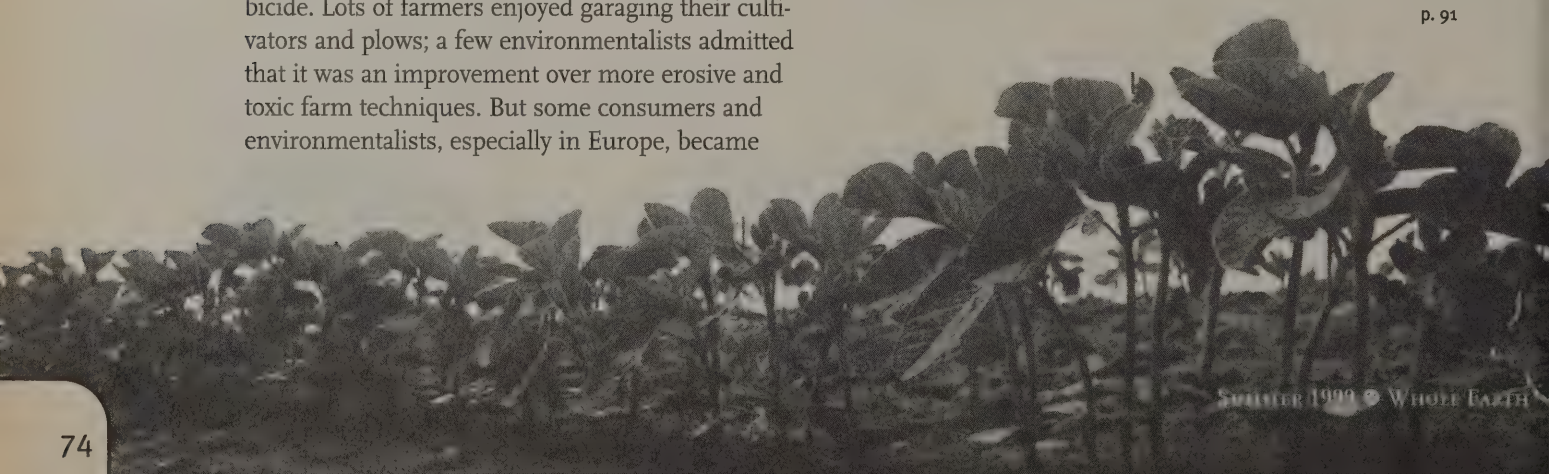
So soy could be a leguminous savior, allowing humans to switch from “excess-animal” to “reasonable-vegetable” protein intake. Soy, the angel, could definitely help our health. Or, soy could become demonized, the protein-rich devil addicting our civilization to cruel and questionably safe industrial farming, and causing transgenics-induced allergies.

In short, soya’s personality—its protein, its durability as a seed, its oil and medicinal content, its nitrogen-fixing capability, its adaptability to subtropical and temperate climes, the immense variety of edible products that can be made from it—speaks to our diet, health, pocketbooks, rivers, and children’s future. As the ultimate consumer in the soy food web, we could disavow the Heartland, pretend soy products magically arrive in the Safeway or Co-op coolers. But the starting line of sustainability is Pay Attention. Who’s running? Who’s coming up from behind? What are the options? What are our personal resources? What’s the best timing? Pacing and influence.

— Peter Warshall

#### MINI-INDEX

- Thinking about Soy and Food Systems, pp. 80, 82, 91, 103
- Donella Meadows on biotech, p. 104
- Dan Imhoff on 3,000 years of the soybean’s history, p. 75
- Brian DeVore on farmers trying to diversify the monocrop, p. 84
- Maurice Telleen on the farm vs. factory hog wars, p. 94
- Carl Quintanilla on hogs and the friendly, fair profit, p. 97
- Soy and health, p. 101
- Soy and the Mississippi, p. 91



# SOYBEAN OF HAPPINESS

A 3,000-YEAR HISTORY OF OUR MOST MODERN OILSEED

By Dan Imhoff and Peter Warshall

**R**ich in tradition and yet only now being understood, the soybean is a plant of complexity and contradiction. It possesses the characteristics of both animal protein and fuel oil. It can be rendered into both a meat-like fiber and a cow-like milk. It can provide low-cost vegetable protein, yet it has become a mainstay of the livestock feed industry. It is a relatively self-sufficient crop, producing its own nitrogen nutrients and resistant to most diseases, yet is at the center of controversy about genetically modified foods. Its cultivation has the potential to reduce environmental impacts from agriculture, energy, and other sectors, yet as part of the corn/soy rotation, its cropping pattern creates more US nutrient-pollution and sediment than any of the global monocultures.

The wild relative of *Glycine max* was a rambling plant, growing close to the ground. Sometime around the eleventh century B.C.E., farmers in the winter wheat-growing regions of Manchurian China encouraged the recumbent wild legume to grow upright. The enthusiasm of Chinese farmers for the soybean was manifested in the names they bestowed on the crop's many varieties: Great Treasure, Brings Happiness, Yellow Jewel, Heaven's Bird. After three millennia of breeding and plant selection, today's soybean plants typically stand three feet high and three feet wide, bearing sixty to eighty pods of three beans each. Soybeans grow well even in marginal soils, and possess the soil-enriching property of leguminous plants, namely the ability to draw nitrogen from the air and transfer it to the ground through their roots.

For Asians who did not drink animal milk, the soybean quickly became indispensable. The beans, which were soaked in water to yield a white liquid, were known affectionately as "the Cow of China." But, in contrast to other staples like corn or rice, the hard oilseed needs to be intensively processed. In 206 B.C.E., in Han Dynasty China, soybeans were first fermented to make *douchi*, the predecessor of soy sauce and miso. (What is called *douchi* by the Chinese and *hamanatto* by the Japanese, we call "salted black beans," because the soybeans turn black during fermentation.) Soy's flour, powder, or curds were fermented to make miso (soy paste), shoyu (soy sauce), *doufu* (soy curd), *natto* (soy cheese), and tempeh (a soybean cake invented



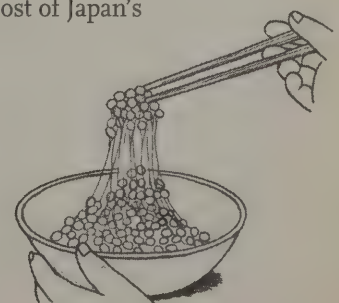
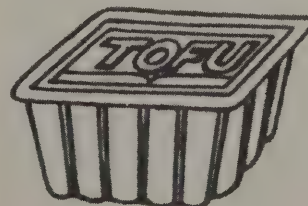
Preparing *Dengaku* in old Japan (from Hokusai's notebooks).

in Indonesia), as well as *yuba*, *kinako*, *hamanatto*, and *kochu chang*. Steamed green beans, roasted soy nuts, and soybean sprouts were also favored and highly nutritious.

In the last half of the first millennium C.E., the Japanese upper classes adopted many pillars of Chinese culture, from writing characters and legal norms to the Buddhist religion and *doufu* (known in Japan as tofu). A sixth-century monk poetically praised tofu's "dazzling white robes," accentuating the refinement with which Japanese culinary artistry endowed the soybean. Around the seventh century C.E., Japan's miso tradition emerged. Miso seems to have evolved from both *chiang*, a soybean paste that Buddhist monks brought from China, and *jang*, a similar soybean product that Korean farmers introduced to Japan's countryside. Miso remained a delicacy of the privileged classes, made almost exclusively by monks until the tenth century. Eventually, soybeans became more widely available, and the methods of fermenting soybean paste to produce miso became as diverse as the households that prepared it. By the eighteenth century, samurai families established the miso-making industry. Today, while miso is served throughout the country in households nearly every day as a broth for soup, or a dressing or sauce for grilling fish and other meats, its production has been largely relegated to giant factories. Most of Japan's soybeans are imported.

ALL ILLUSTRATIONS FROM THE BOOK OF TOFU (SEE REVIEW, PAGE 90).

Natto.





FROM THE COLLECTIONS OF HENRY FORD MUSEUM & GREENFIELD VILLAGE.

Soybeans' four "first-generation" or ancient foodstuffs—miso, soy sauce, tempeh, and tofu—are fairly refined and bear little resemblance to the just-harvested legume pods. For this reason, the earliest references among western visitors to China or Japan rarely mentioned the soybean itself. Instead, travelers wrote of "gravy," "great cakes like cheeses," "milk out of the kidney beans," and other exotic culinary descriptions. Though soy sauce became a widely traded commodity during the seventeenth century, soy's cultivation and use as a food plant were not well understood in Europe until Engelbert Kaempfer (a medical officer with the Dutch East India Company who had served on a junket in Japan), described them in his botanical work, *Amoenitatum Eroficum*.

Soybean historian Theodore Hymowitz credits Samuel Bowen with introducing the soybean to the United States. Bowen was an adventurer, working for the East India Company, who claimed to have been taken prisoner for four years and transported from place to place within China. By 1767 Bowen was contracting with farmers to grow the bean in Savannah, Georgia. He successfully sold the crop in the form of soy sauce to England, but failed to elevate the plant to the status of cotton or peanuts. Benjamin Franklin, an early proponent of vegetarianism, shipped seeds to John Bartram of Philadelphia in 1770 along with a letter praising the tofu which the Chinese made from soy. Still, the soybean languished in obscurity in the West for another century and a half.

It was not unusual for Henry Ford to summon the press to banquets to champion soybeans. At his 1934 dinner for the Chicago Century of Progress, the industrialist served guests a buffet entirely derived from the versatile bean: soybean croquettes, pineapple rings with soybean cheese, salad garnished with soy-oil dressing, and soybean bread spread with soy margarine. While Ford continued to host lavish soy-based meals for the press for the rest of his life, most of his energies were devoted toward incorporating soybeans into Ford products. Soy meal was added to plastic gearshift knobs and horn buttons, while soy oil formed the base for exterior enamel. By the early 1940s Ford's researchers had not only produced vegetable-based upholstery, they also introduced a prototype car whose plastic shell—the strength of which Ford is demonstrating here—was derived from soybeans and other farm products. (Today's cars contain hundreds of pounds of plastics as a result of Ford's experimentation.)

Ford died in 1948 before his predictions came to fruition: "Soybeans will make millions of dollars of added income for farmers, and provide industry with materials to make needed things nobody even knows about now."

## SOY INDUSTRIALISM

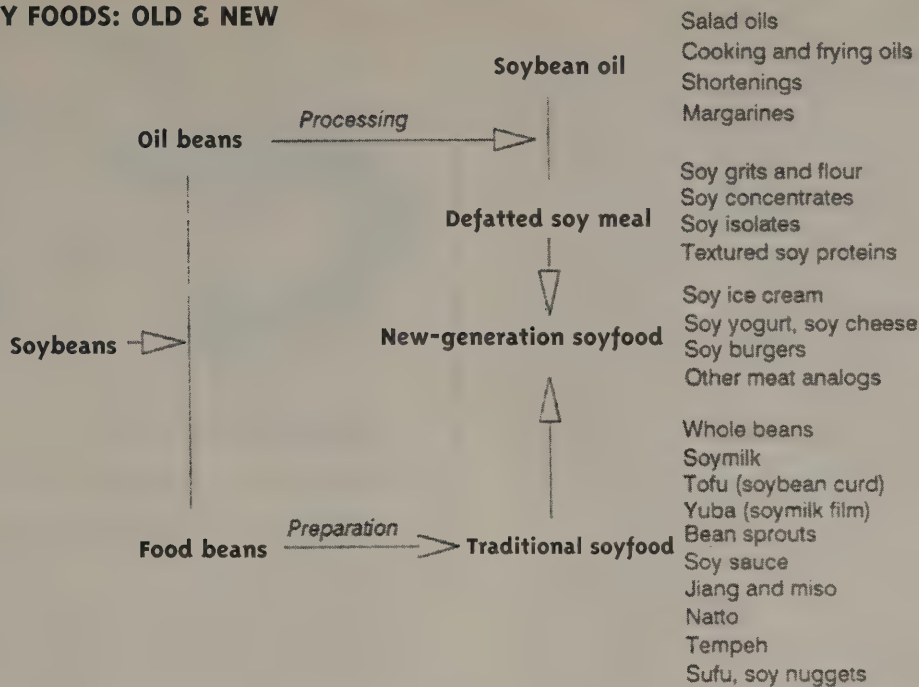
Prior to World War II, the soybean had no more zealous advocate, publicist, or experimenter than Henry Ford. Father of the modern assembly line, proponent of affordable cars for the masses, Ford also spent vast economic resources developing industrial and culinary uses for the soybean. During the last two decades of his life (the 1930s and 1940s), he became more preoccupied with the industrial possibilities of vegetable protein than with the V-8 engine. Ford co-founded the "chemurgy movement," an emerging agricultural effort to apply chemistry and applied sciences to agriculture. It was also an extension of his lifelong efforts to improve the lot of the farmer.

Soy was a perfect study for Ford. Until the 1930s, the extraction of soy oil through mechanical processing degraded the protein in the leftover meal. Soybean-meal use stagnated as a poor supplement to cattle feed; sometimes it was used as a fertilizer. During the 1930s, the chemurgists learned to extract the oil from the meal with hexane, a petroleum solvent. The soy oil could be used for human foods like margarine and salad oil as well as various industrial purposes, while the intact protein-rich meal could be fed to cattle, poultry, and pigs. Research exploded.

Every part of the bean, from hulls to oil to protein to carbohydrate, found a use. By the late 1950s, the first edible soy flour and grits had been perfected. Soy flour became a substitute or added ingredient in bakery goods. In 1959, the first 70-percent soy concentrates came from Griffith's Labs in Illinois. By 1960, the Central Soya Company had produced a 90-percent soy protein extract. By 1970, Archer Daniels Midland fabricated the first soy protein with the texture of meat. Today, soy



## SOY FOODS: OLD & NEW



comes as enzyme-active soy flour, texturized soy protein, defatted soy flakes, soy meal, soy concentrates, soy isolates, and full-fat flour.

The second generation of soyfoods—based on these soy products—blossomed. In the 1960s, “Baco-Bits,” made from soy-fatted flour, became America’s first commercially successful industrial soyfood product, a cheap non-meat substitute for bacon, easily used in various dishes. In 1982, David Mintz created Tofutti at his New York kosher deli. The first popular non-dairy ice cream, Tofutti was a blend of tofu, soy milk, and other soy proteins. It became, at that time, the biggest food boom in American food history.

“In 1975 you couldn’t find anything made from [fermented] soy outside of a Chinese or Asian grocery store,” says soy specialist William Shurtleff. “Today soy milk and tofu are available in most supermarkets around the country. As the advantages of a vegetarian diet—water and energy conservation, preventive health benefits, and reduced environmental impacts—become better known, the soybean will be instrumental in changing us from a global economy that depends upon farming a huge amount of plants and feeding them to animals which are slaughtered, to one based largely on vegetable protein.”

That’s still a long way off. Only 3 percent of US soybeans (by weight) go directly to human food; about 99 percent of soy meal is fed to poultry, pigs, and cattle. (One-third of the crop is exported; most of those soybeans are fed to large and small livestock as well.)



### What Do you Get?

Soy ink makes economic sense and it’s more environmentally friendly than petroleum-based equivalents. A “Printed with Soy Ink” pledge is a way for a printer or publisher to say, “We’re green.” But the “official certified guarantee” can refer to ink which contains as little as 7 percent soy oil!

The American Soybean Association developed its SoySeal trademark standards in cooperation with ink manufacturers. Different presses can make better use of soy oil inks. Soy inks dry more slowly than petroleum-based ink. Because newsprint is absorbent, black news ink can contain as much as 75 percent soy oil. But, black news ink can be as little as 40 percent soy oil and still merit the SoySeal.

At the other extreme, coated stock for magazines printed on web presses absorbs less oil, requiring heat setting to dry the ink. Heat-set inks contain 25–35 percent solvents, and less than 20 percent soy oil; the SoySeal is awarded for as little as 7 percent soy oil. SoySeal standards for sheet-fed presses, cold-set ink on web presses, and other kinds of printing range from 20 to 30 percent.

This issue of *Whole Earth* is printed on a heat-set press with 7 percent soy oil ink. We, somewhat embarrassedly, get a SoySeal.

For more information, see the National Soy Ink Information Web site, [www.soyink.com](http://www.soyink.com).

## THE INDUSTRIAL PRODUCTS

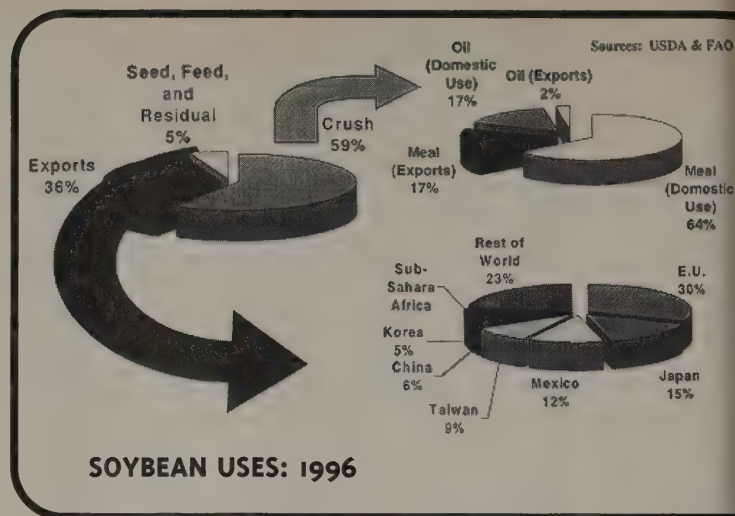
The oil embargoes of the 1970s brought long lines to filling stations, pushing the price of a gallon of gas over one dollar. They also threatened ink shortages (oil is the medium necessary to carry the pigment in printers' inks); the American Newspaper Publishers Association launched a quest for an alternative, and singled out soy oil from 2,000 other plant formulations. Soy oil was fairly inexpensive, had acceptable viscosity, and possessed an unusual clarity that allowed pigments to show through more sharply and brilliantly than did its petroleum-based brethren. Soy oil was the perfect "slip-in" product. It could be substituted to print newspapers without any change in equipment or techniques.

By 1987, six daily newspapers had ushered in the new generation of soy-based inks. A decade later nearly one-third (3,000) of America's newspapers had followed suit. More than 100 US ink manufacturers now offer at least one soy-based product. Color soy ink is competitively priced with petroleum-based color ink. Black soy ink currently costs about 25 percent more than conventional ink, but seems to stretch further on the press, and is easier to clean up. [See box, page 77.]

Soy oil not only is the number-one edible vegetable oil in use today, but has all the properties of petroleum—without the toxicity. Because it's biodegradable, researchers are finding applications for soy oil as a clean-burning substitute for diesel fuel in inner-city buses and as a lubricant in pumps and machinery that could potentially leak into sensitive environments. Soy oil is increasingly substituted for petroleum-based oils in plastics, household and industrial cleaners, paints, pharmaceuticals, and pesticides, to name just a few categories. This is still an embryonic market. Only one-tenth of one percent of all the US soybeans harvested goes to industrial uses.

## GLOBALLOCAL SOY FIGHTS

In the 1970s, Japanese and other international investors started to capitalize soybean farms in Argentina and Brazil. Today, these two nations produce 28 percent of the world's supply and have begun to challenge US soybean producers in the global export market. Upper Mississippi barge traffic to New Orleans now competes with the Rios Paraná/Paraguay river system in transporting soybeans to export markets (see page 92). In a few years, more rainforest may be



lost to expanding soy production than to timber harvesting and pulp and paper.

With over seventy million acres in soybean production, the United States (where the crop output is second only to corn's) dominates the global market. Brazil, Argentina, China, and India are the next largest soybean producers. But, it is hard to know exactly what "the US" signifies here. In the 1980s, soybean processing and export concentrated into five multinational companies: Cargill (headquartered in Minnesota), Continental Grain (New York), Archer Daniels Midland (Decatur, IL), Dreyfus (Paris), and Bunge (Sao Paulo). Some have invested in all aspects of soy—from seed, fertilizer, financial capital, and research on the input side, to food, feed, milling, distilling, and composite flour products. They are also involved in transportation and storage of grains, fertilizers, and feed. Because processors are also exporters, they have stirred up cries of monopolist market controls (see page 93).

## THE MOST RECENT INCARNATION: GENE-SPLICED SOY

The 1990s is the decade when researchers searched for the perfect soybean or, more precisely, custom-designed soybeans.

Some beans have been sexually crossed, others subjected to mutagenesis by chemicals or radiation, and still others altered by gene splicing. Researchers are on a quest to increase crop productivity (with herbicide- and insecticide-resistant varieties); to custom-design varieties for food markets in Asia; to increase and change the qualities of edible oil or protein content; and to better manage the beany flavor and tendency to cause flatulence. In 1996, for instance, the first commercial release of

genetically modified soybean seeds made its way into fields across the United States. The Monsanto Company offered farmers a package deal: a soybean ("Roundup Ready") designed to withstand heavy applications of their top-selling herbicide, Roundup. Spliced into the 3,000-year-old genetic makeup of the domesticated soybean were genes of the cauliflower mosaic virus, agrobacteria, and petunia, with combined properties that allowed the crops to survive repeated dousings of the weed killer.

Monsanto scientists argued that they were merely reprogramming "nature's software," and that their new smart seeds would yield heartier, more prolific plants that required less herbicide use (Roundup, they assured, was environmentally benign). And developing crops tolerant to this herbicide would permit elimination of a cocktail of other agri-chemicals, producing savings for the farmers, benefits for the environment, and a solution to the

In 1924, the US produced about 5 million bushels of soybeans. In 1984 almost 2 billion.

In 1924, an acre's yield averaged 11 bushels; in 1984 it was 28.2 bushels.

In 1924, the US grew 1.5 million acres of soybeans; in 1997, 71 million.

In the northern Midwest, soybeans replaced oats, hay, and barley. Corn and wheat remained safe because of government regulations and the usefulness of the corn/soy rotation.

human population's growing food needs. The crop sailed through the US Environmental Protection Agency approval process, and took the farming world by storm. In 1997, just 3 percent of the soybean crop was Roundup Ready. In 1999, according to the *Washington Post*, 50 percent of the seventy-two-million-acre US soybean harvest is expected to be genetically engineered to tolerate Monsanto's Roundup.

Farmers who grow the agribusiness giant's patented plants must sign a "Technology Use

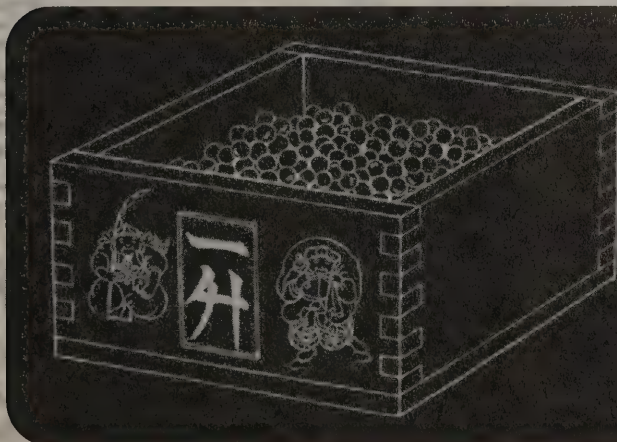
Agreement," which not only stipulates that they cannot save seed from year to year, but also authorizes Monsanto to come onto their land and take samples for three years after seeds are purchased. Hundreds of farmers have already settled with Monsanto (in the tens and even hundreds of thousands of dollars) for planting patented seeds in violation of the Technology Use Agreement.

Other farmers argue that they are not violating the agreements, but that—out of their control and the company's—genetically altered Roundup Ready seeds are cross-pollinating with other plants as clouds of pollen whisk across fields during harvest season.

"Monsanto made a major mistake with Roundup Ready," argues William Shurtleff, "by introducing a plant with no initial consumer benefit. For example, they could have created a soybean with no saturated fats. The health benefits would have been significant."

For the past half-century the soybean has served as a crucible of sorts, at the center of rapidly changing technologies in industry, international trade, and agriculture. This role will surely carry over into the twenty-first century, as the battle over genetic engineering and the quest for the perfect soybean continue. Will the soybean become custom-designed to accommodate various diets, to provide more oil and protein, or even to prevent certain types of cancer? Will genetic alterations reduce pesticide or herbicide use, render plants sterile, or become the vilified agents of biological pollution? Now long removed from the initial experiments of those early farmers scraping at the soil with sticks and planting wild seeds during the Shang Dynasty, the soybean has journeyed far; a journey that may, in fact, have really just begun. ❁

Estimated demand for soy to make pork and poultry feed is expected to double in the next twenty years.



Soybeans have been a prize in Asian history. By 1894, China and Japan were at war over the Newchang Port on the Manchurian coast, the major port for soybean export. Japan won. Twenty years later, under Japanese control, the port exported 2 million tons of soybeans, oil, and meal.

Today China is reducing its soybean crop to make room for wheat and other grains. To replace lost acreage, China now imports more soy meal and more soy oil than any other nation on the planet. (It also imports some soybeans for classic soyfoods.)

As the Chinese have a bit more disposable income, cooking oil is a priority luxury. China imported 1.75 million tons of soybean oil last year. The Chinese people desire more pork, poultry, and eggs as well. The global soyfood system increasingly focuses on China.

# LEVERAGING THE HEARTLAND

Donella Meadows, in her “Places to Intervene in a System” (*Whole Earth* No. 91), mapped out a method to look at any system. To find the points at which to leverage a system, she said, look at the flow of materials; the materials themselves; corrective feedback loops; information flows; the rules of the system; and its goals and mindset. In the soy/corn agro-ecosystem of the Heartland, this is a mighty task. The *materials* include seeds (genetically modified or “regular” hybrids); fertilizers in many formulations, from green manure to petrochemical urea; pesticides of a dozen varieties; herbicides of another dozen formulas; and special soil amendments.

The *flows* of these materials are global. Potassium comes from western Canada by a special railroad. Petrochemical products come up the Mississippi by barge or rail. The seeds can “flow” to any of a dozen nations, some thousands of miles away. Water for irrigation comes from storm fronts as well as irrigation systems. One could also look at cashflows, at information flows, or at energy flows of petroleum, sunlight, or electricity.

This task is daunting. How do you tackle it? More than 300,000 US farms (204,000 in the Heartland) grow 70 million tons of soybeans that flow to five major corporations for “crushing.”

The crushers sell the oil to hundreds of secondary processors for stuff like salad oil, mayonnaise, or soy ink; they sell the soy meal to dozens of meat growers, slaughterhouses, and packagers, who in turn sell their wholesale chicken, pork, and beef to thousands of retailers before it winds up in the homes of millions of consumers. And that’s just the system’s Heartland part, which is a subdivision of planetary relationships including soy production in Argentina, Brazil, and China. And all the crude soy oil competes with five other edible oils, while all the protein competes with range-fed livestock and oceanic-fish protein. Yikes!

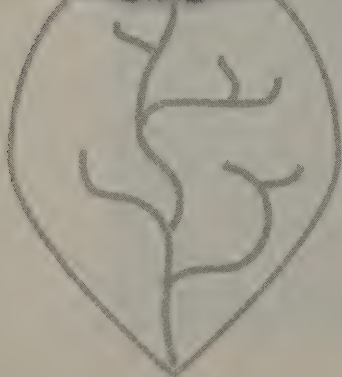
To avoid global-scale matrix overload, some citizens try to buy food from nearby watersheds. Today, Community Supported Agriculture (see *Whole Earth* No. 92) and farmers’ markets try to simplify the food system. You know where your veggies come from and who gets the money. CSAs have clarity compared to the turmoil in sprawling planetary agriculture. CSAs work great in season, and for vegetables and some fruits, but wheat, corn, and soy take you right back into the global turmoil of the Heartland.

One way to avoid complexity insanity is to subdivide the system into smaller parts (subsystems) which still keep a sense of watersheds. These

ILLUSTRATION BY  
STEPHANIE JOHNSTON.

## THE AGRO-ECOSYSTEM OF SOY

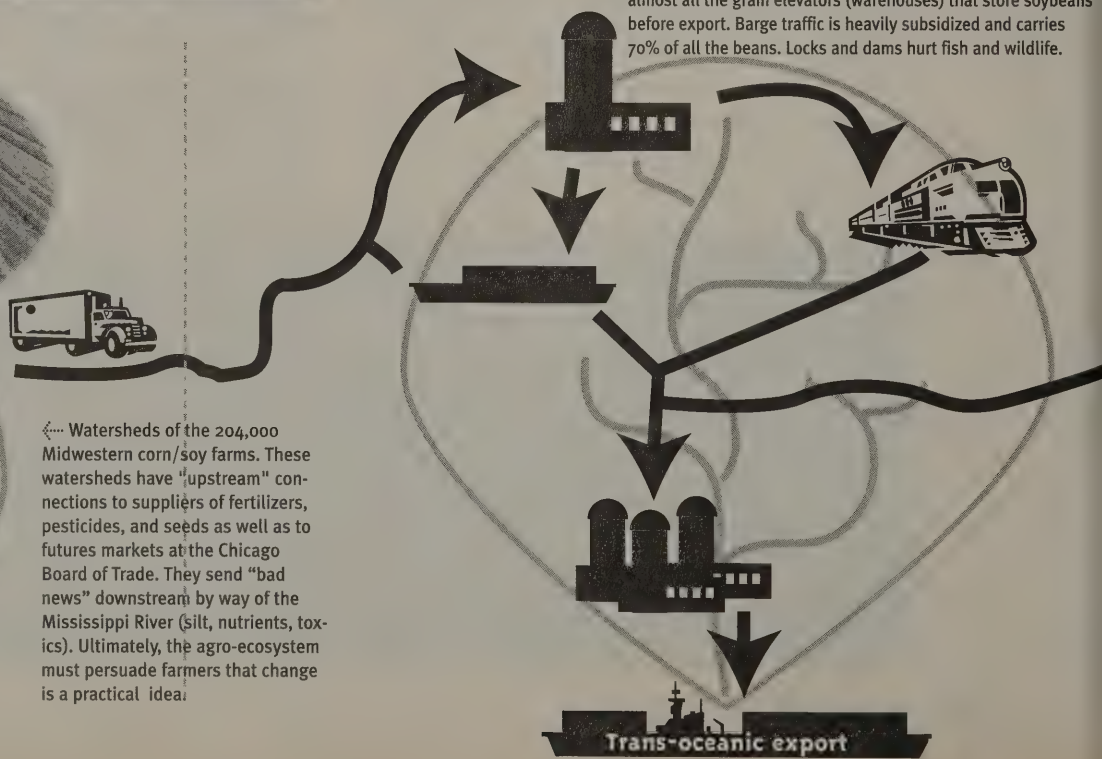
### The Farm Watersheds



Watersheds of the 204,000 Midwestern corn/soy farms. These watersheds have “upstream” connections to suppliers of fertilizers, pesticides, and seeds as well as to futures markets at the Chicago Board of Trade. They send “bad news” downstream by way of the Mississippi River (silt, nutrients, toxics). Ultimately, the agro-ecosystem must persuade farmers that change is a practical idea.

### The Mississippi Basin: Commerce

One-third of all soybeans are exported. Four companies manage almost all the grain elevators (warehouses) that store soybeans before export. Barge traffic is heavily subsidized and carries 70% of all the beans. Locks and dams hurt fish and wildlife.



"nodal watershed complexes" are the nexus of many flows. They are puzzle-points where leveraging could lead to new organizational forms. They're hardly isolated, but they can be affected by local citizen inspiration and coordination. For soy, there are four:

- **The farmers' watersheds**
- **The Mississippi River Basin of commerce and crushers**
- **The watersheds of concentrated animal feeding and industrial soy products**
- **The myriad watersheds of sellers, promoters, and you**

These watershed complexes are described in the flow chart below.

There remain, of course, the rest of the planet's watersheds. The Rios Paraná/Paraguay Basin, for instance, in Argentina and Brazil, produces 28 percent of the planet's soybeans. Citizens within this and the "cousin" Mississippi River Basin must have inseparable goals, rules, and global mindsets if sustainable agriculture is to occur (see page 91).

Then there are European food-safety demands for clear labeling of all gene-spliced soy. European retailers, including most large supermarkets in Britain, refuse to purchase unlabeled soy products. The US market has just begun to differentiate non-gene-spliced soybeans for the European market that requires them. Heartland farmers must now

decide which to grow. Merchants and processors along the Mississippi have been forced to start a parallel market system that segregates gene-spliced from "regular" soy at the crushers and in the grain elevators, barges, and railroads (otherwise, all soybeans are comingled without distinction). In connecting the local and global, the flow of and insistence on information (labels or how-to-do-it river protection) are strong levers that can alter the rules and goals of the food system and maybe change the industrial-ag mindset.

In short, the ways to get a footing in the sprint to sustainability include simplifying the links; re-enforcing the info flows; creating parallel systems with more incentives to grow less-harmful crops; using consumer purchasing to send a message back up the foodchain; and linking watershed subsystems into a reorganization. To stay grounded, all these must pay great homage to the farmers' watersheds. Their cultivation is the source of your life's sustenance. Moving farming out of industrial ag puts farmers at financial risk and asks them to take on the burden of inventing a new style of cultivation. Some will inevitably fail (see page 84). Just making it as a farmer has never been easy.

As has been argued by many historians: To find civilization, look at the links between farm and city. If the system of links is fair and understanding, you're on the right track to a better world. —PW

### Soy Crushers

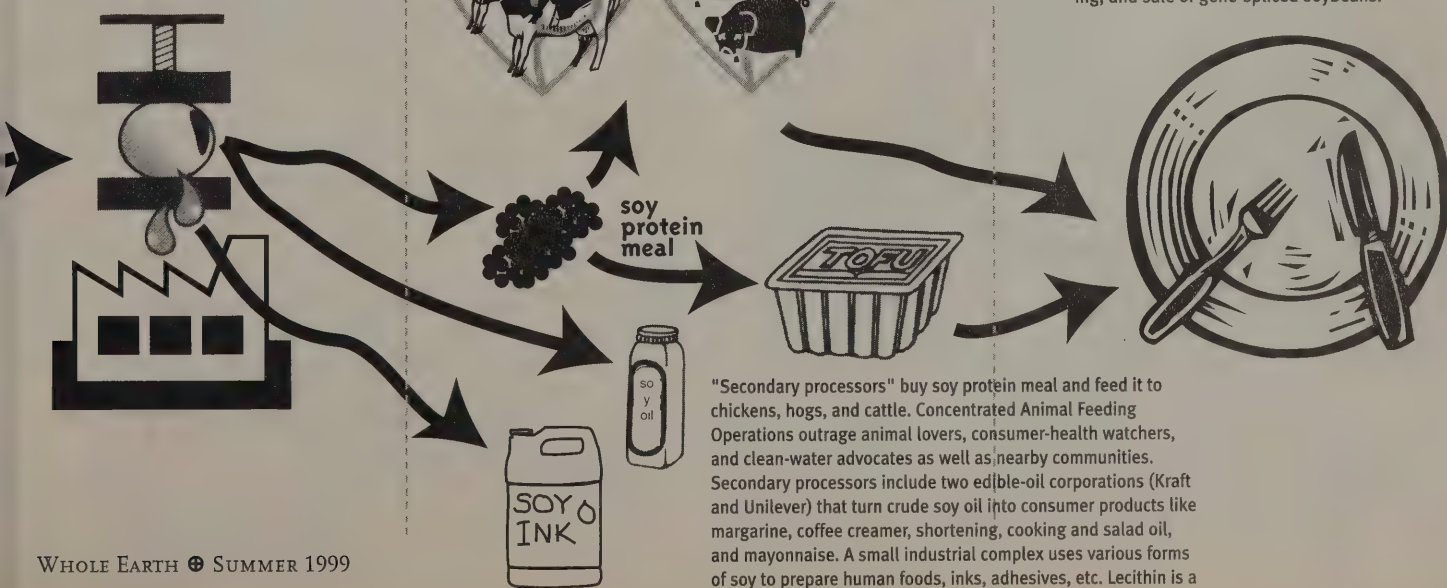
Five big crushing companies and an ag co-op receive 80% or more of all raw soybeans. They extract the crude soy oil and separate it from soy meal and "waste" hulls. Some of these crushing companies also own "upstream" warehouses, shipping companies, and supplies, and "downstream" product manufacturing (see page 93). Two-thirds of all US soybeans are crushed in the Mississippi River Basin.

### Factory/Farm Watersheds



### Watersheds of the Sellers, Packagers, Promoters, and You

Hundreds of wholesalers, thousands of retailers, and millions of consumers reside in these watersheds. Their satisfaction or outrage feeds back "upstream," influencing all the other watershed-based enterprises. The most recent upstream influence has challenged the growing, processing, and sale of gene-spliced soybeans.





# THE FARMERS' WATERSHEDS: SUBSYSTEM LEVERAGE POINTS

**A** Midwestern farm is no simple thing. Many family farms have closed, many farmers now rent with less say about what they plant, and all have off-farm income.

The Farm Bureau's promo pieces claim that foreign markets will finally raise farmer profits. But commodity prices have stayed low, and more often than not, when they've risen, the increases haven't reached the farm gate. The costs of "inputs"—the latest seeds, pesticides, and herbicides—keep eating at the farmer's share of the food dollar. Banks and credit agencies want to see what the farmer is planting before deciding whether to make a loan. (Almost all farmers need to borrow before planting, to purchase inputs, and pay back loans when the crop—they hope—comes in at a good price.) Then there is the cost of farm machinery, grain elevators, and trucking. Insurance salesmen pressure farmers to buy more coverage, asking: What would happen if a ton of soybeans buried you alive? And, always, there's the weather.

Sustainable farming has little appeal to farmers if they must bear the costs. Financial advisors and farmers' children (now in cities) try to juggle on-farm and off-farm income to keep the farm viable. Most farmers and their families have one or more off-farm jobs. The Crop Advisor and Ag Extension agent also try to bring some stability with news of the latest conservation-tillage equipment, government policies, or income supports.

The bottom line is: high crop yields and low-cost loans bring home the bucks. Industrialized ag—with its in-place market structure and orchestrated inputs—has increased crop yields with less hassle than "sustainable" alternatives. Midwest farming produces no great profit, but it brings in enough income to "sustain" 204,000 Midwestern soy/corn farms—if only as write-offs for farm losses against income from driving the school bus.

From our systems point of view, if the costs to future generations of soil loss, reduced fertility, and downstream damage were included in the crop's selling price, then sustainable farming would become economically competitive. But the rules do

## FEEDBACKS ARE MOVEMENTS IN A CIRCUIT.

A feedback returns a message to the sender, usually a new message that says keep going, rev it up, or slow it down.

• **NO FEEDBACK** between the Clean Water Act and farm pollution. Landwash from farms has been exempted from most important federal standards and regulations, preventing the public desire's for clean water from influencing farming.

• **GROWING FEEDBACK:** Downstream people (fishermen and citizens concerned for their drinking water) are looking for ways to stop farm-nutrient and pesticide pollution from ruining their health and livelihoods (see Mississippi River Basin Alliance, page 91), through lawsuits and Congressional lobbying.

• **FROZEN FEEDBACK** between corn and soy rotation prevents the industrial-ag cropping system from

becoming more diversified or organic. Depending on the year, 83–97 percent of all soy is in rotation with corn.

• **AMBIGUOUS FEEDBACK:** Conservation tillage (a corrective feedback for reducing erosion) has become more popular, though at times it is associated with questionable herbicides used in place of weeding.

• **WEAK FEEDBACK** between export demand and on-farm profits. Farmers live in hope and plant more and more because the feedback *might* work (and, like a lottery, occasionally it does).

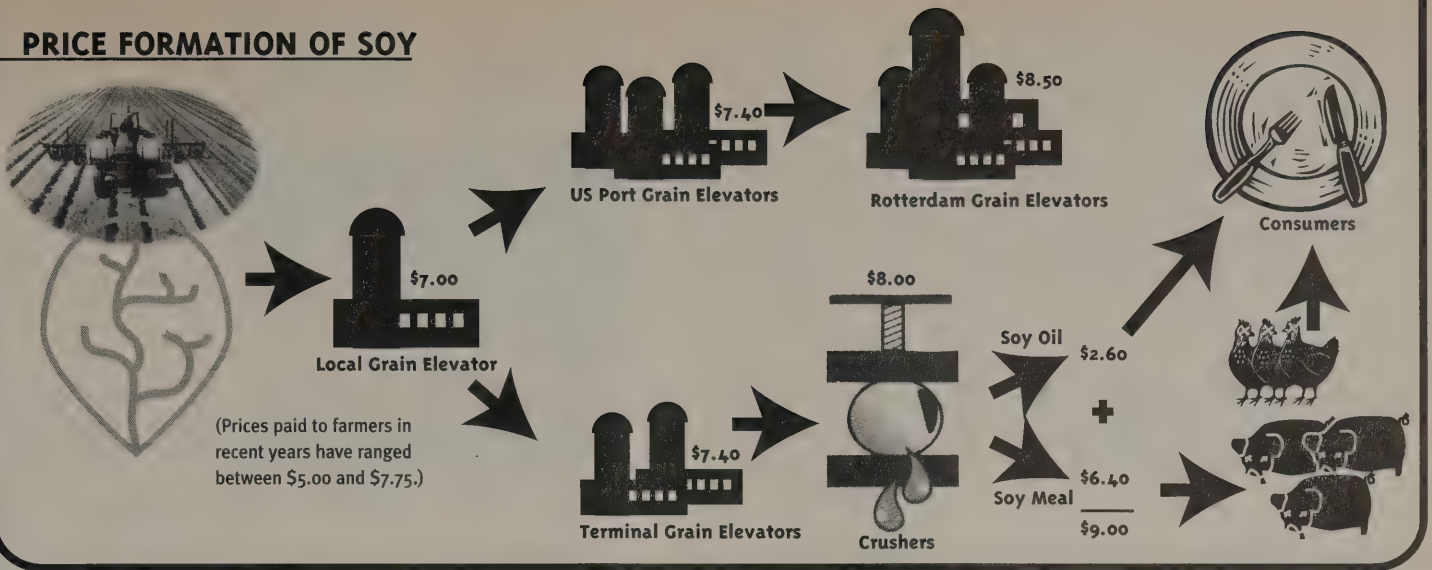
• **RULES:** If you want to save bird biodiversity, remove land from the

agricultural system. No active way to support both farming and biodiversity except through conservation easements and the Conservation Reserve Program (which pays for temporary removal from agricultural use). Nature Conservancy-type refuges are most effective.

• **RULES:** To sell crops from less-damaging farms (low-input, diversified, organic), create a parallel and separate market system with premium prices.

• **GOALS:** A strategy that both reduces financial risks by maintaining soy yields AND reorganizes suppliers, farmers, and buyers into a more sustainable market system.

# PRICE FORMATION OF SOY

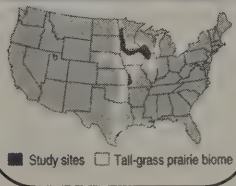


not link economic and ecological costs, financial and natural capital. It is a big missing feedback loop—one of many that discourage reorganizing for sustainability in the Heartland (see box).

In spite of all these barriers, some farmers are initiating their own interventions. Brian DeVore (page 84) visits farmers who are deprogramming from the soy/corn rotational fix and experimenting with other ways to keep the pests at bay and keep yields and profits high. He looks at some of the Heartland pioneers of the transition to more environmentally and socioeconomically friendly farming. Can integrated pest management replace pesticides? Can integrated plant-nutrient systems prevent fertilizer leakage into the Mississippi? Can “low-input” and “diversified” farming ease a transition? The sprint toward sustainability has begun. — PW

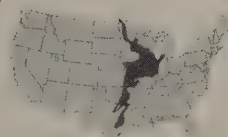
Above: New costs are added at each step between the \$7 per bushel the farmer receives and the \$9 for which the crusher sells soy oil and meal. The farmer’s “margin”—between expenses and income—varies with credit terms, equipment depreciation, support payments, and costs of labor, energy, and “inputs” (pesticides, fertilizer, seeds), as well as soy prices.

NATIONAL BIOLOGICAL SURVEY



Above: Regal fritillaries mating on pale purple coneflower. A candidate for the endangered species list, the butterfly has lost 99% of its homeland—the tall-grass prairies, now cleared and cultivated as corn/soy and wheat.

Right: Remnant Midwestern oak savanna with distribution map of original forest. Over 30 million acres of this now globally endangered ecosystem once occurred in the Midwest. Below: The Midwest was NOT just prairie, but a mosaic. It transitioned from woodland to savanna to tallgrass prairie.



NATIONAL BIOLOGICAL SURVEY



THE TALLGRASS RESTORATION HANDBOOK

# QUILTED FARM FIELDS CONTRAPUNTAL CROPPING VIBRANT ECOSYSTEMS

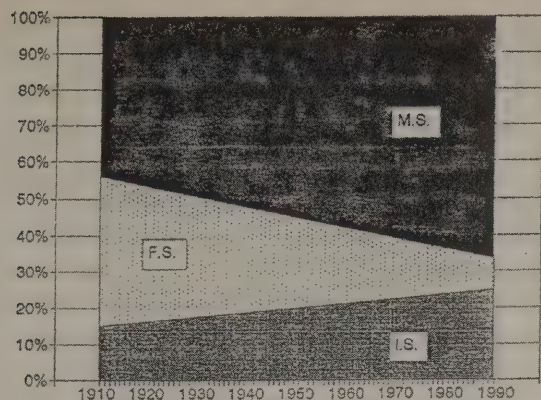
*By Brian DeVore*



**CORN/SOY FARMING DECIMATES BIODIVERSITY.  
PETROCHEM AG POLLUTES DOWNSTREAM. FARMERS  
LOOK THOUGHTFULLY BACK TO  
PLAN COMPASSIONATELY FORWARD.  
IT'S A HARD ROW TO HOE.**

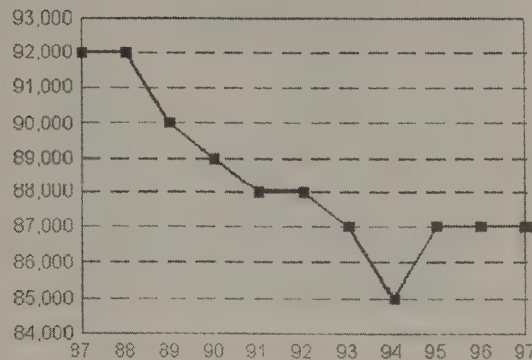


### Marketing, Input, and Farm Shares



### NUMBER OF FARMS

#### MINNESOTA



BILL VORLEY, INSTITUTE FOR AGRICULTURE AND TRADE POLICY

It's late September in northwest Minnesota, a time when post-harvest hues of brown dominate the landscape. One of Jaime DeRosier's fields stands out like a patch of green velvet tossed into the middle of a parking lot. A three-week-old stand of hairy vetch and winter rye is growing like crazy. The ground itself is soft enough to nap on. A small leopard frog wrestles its way through this miniature jungle. DeRosier pulls up a few strands of vegetation.

"If I can keep it green in the fall, I'm going to screw up the weed system," says DeRosier. "The weeds get freaked out." Quack grass, the bane of crop farmers, doesn't like the rye/vetch Eden at all.

Rye and vetch are two of more than half a dozen plant species DeRosier uses in a complex rotation of cover crops on the 1,500 acres of land he farms near Red Lake Falls. DeRosier's soil has responded by building up its own nutrient-making and pest-fighting abilities. The variety of crops makes him less vulnerable to drought and pest outbreaks as well as soil erosion. And a reliance on natural pest control means DeRosier doesn't have to worry whether agrochemical failures will make or break his crop. All this means more stability in his bank account at a time when many of his 30-something peers are calling it quits.

"The local farm-business instructor wants to work with me to compare my finances to other operations—now that it looks like I'll be around for a while."

### ADDING A LITTLE COLOR

DeRosier is one of a growing group of farmers who are working to bring a little colorful

biodiversity back into a mundane Midwestern crop-farming system ruled by corn, soybeans, and wheat. Many ecologists and agronomists say such efforts are coming none too soon. Our agricultural system is less diverse than at any time in history, and it's paying a price in lost resiliency. The negative results of lost biodiversity are nothing new to ecologists: vulnerable crops, genetically impoverished varieties, lowered water quality, eroding soil, troubled wildlife populations, and a less vibrant ecosystem overall. But within the past few years, farmers have been seeing the results of simplified plant systems up close and personal. Dramatic swings in yields, disease outbreaks that can't be controlled, and chemical-resistant pests are just some of the early warning signs. For example, early in this century the Red River Valley had been the stuff of agricultural legend, as a producer of hardy northern varieties of wheat. Now it is struggling to maintain any small-grains production. The reason? A "scab" disease that loves monocultures has decimated the region—a warning that agriculture needs biological diversity if it is to continue producing food and fiber well into the next century.

Some scientists, worried about lack of biodiversity, would like to see a farming system that more closely resembles natural processes; a prairie ecosystem made up of hundreds of species of plants. University of Minnesota ecologist David Tilman's research has shown that increasing diversity in plots of perennial grasses results in more resiliency and biomass productivity. But grain crops can't be produced in such an environment on a large scale—at least not yet.

There have been some recent advances in the field of "perennial polycultures," food-crop systems

Top left: The farmer's share of the food dollar has been shrinking. Inputs, especially seed costs, have risen dramatically. Marketing is now 60% of food cost.

Top right: Minnesota's story of farm declines is typical of the whole Midwest.

Original prairie. About twenty native species per square quarter mile. Prairie gentian, prairie clover, and prairie dropseed are always present.



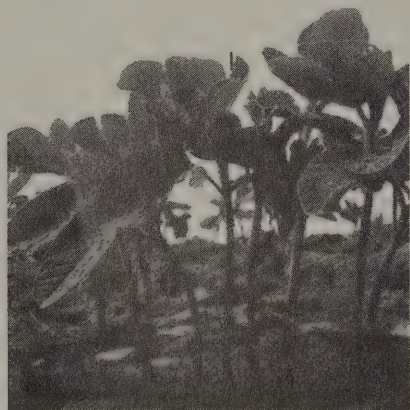
THE TALLGRASS RESTORATION HANDBOOK

Degraded remnant. Grazing-tolerant natives mix with exotics. Only five to fifteen native species per square quarter mile. Native Indian grass and ironweed with exotic timothy and white sweet clover.



THE TALLGRASS RESTORATION HANDBOOK

Corn/soy rotation. Double "monocrop" now covers all but a few thousand acres of original prairie.



NATIONAL SOY INK INFORMATION CENTER

that combine the grain output of annual monocrops like wheat with the stability and ecological health of diverse perennial systems like tallgrass prairies. However, even researchers at the Land Institute in Salina, Kansas, a pioneer in this area of study, say we may be twenty-five or more years away from any practical breakthroughs. By that time, many Midwestern communities may not have the human, agronomic, or ecological infrastructure needed to change cropping practices. Something must be done sooner if there is any hope of maintaining a core of family-sized independent farmers who can meet nature halfway.

## THE SLOW MARCH TO AND FROM MONOCROPS

For a graphic account of the agronomic history of the heartland, take a trip to the Southwest Minnesota Agricultural Experiment Station, just off US Highway 14. There, one wall of a large meeting room tells the story of a region becoming one of the least biologically diverse areas on Earth. On fifty sheets of blue paper, computer-generated charts and graphs show how the Midwestern prairie, oak savanna, and wetland ecosystems succumbed to the plow some 150 years ago. At the turn of the century, a relatively diverse agriculture included wheat, oats, barley, rye, alfalfa, and pasture as well as a few woodlots and remaining groves of trees. The strip between the farm fence and the road nurtured prairie remnants. Since World War II, these relatively diverse agricultural systems have been further simplified to a two-crop "monoculture" of corn and soybeans.

By the time one finishes looking at this wall of agronomic history, it's not a shock to learn that 91 percent of the cropped acreage in a nine-county area of Minnesota is now planted to either corn or soybeans. Sixty-seven percent of the region's total land area is growing one of those crops. If it weren't for things like roads, towns, farmhouses, and an occasional river, that percentage might well approach 100 percent. After World War II, most farmers assumed that synthetic fertilizers and chemical pesticides made the fertility-building, pest-disrupting abilities of diverse crop rotations and leftover weed patches superfluous. At the same time, the government was paying farmers to plant such "choice commodities" as corn and wheat, but not alfalfa, soybeans, rye, or pasture (and certainly not trees). These subsidies were perverse incentives, pushing farmers to switch to monocropped "cash grains" and to give up livestock grazing to specialist feedlot producers, sometimes in other regions. Gradually crops like hay and oats—which have little direct economic value if not directly fed to local livestock—left the rotation plans of many farms.

As crop diversity declined, field size grew. With less need to manage multiple crops, fences came down and farm machines specialized. In fact, by farming only one or two crops, farmers needed to farm more land, because of the thinner profit margins bulk production of one or two commodities produces. The charts show a direct correlation

among the number of acres planted with corn and soybeans, the decline in numbers of farms, and the increase in size of individual operations.

It's a story that's being repeated throughout Midwestern farm country. For example, Iowa, the buckle on the Corn Belt, was labeled the most "changed landscape" in the US in a recent World Bank report. Over 99.9 percent of its tallgrass prairie is gone. The remnants are poor examples on sites too rocky, sandy, dry, or inaccessible to plow. Oak savanna is virtually extinct. 98.9 percent of pre-settlement wetlands have been lost; somewhere between 65 and 77 percent of Iowa's fens are gone, with the remains threatened by drainage, grazing, woodland invasion, and other forces.

### THREE CROPS ≠ BIODIVERSITY

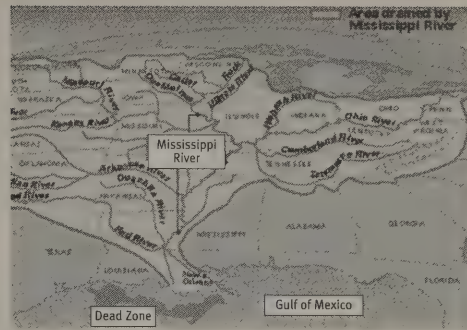
How much on-farm diversity is needed to return ecological health to fields? Researchers and farmers aren't sure. What agronomists are certain of is that adding just one more plant to a one- or two-crop system won't accomplish much—economically, agronomically, or ecologically.

"People have a mind-set there is one magic third crop," says weed ecologist Elizabeth Dyck. "It's like the Monty Python's *Life of Brian* movie where a guy yells out: 'You're all individuals,' and the crowd yells back, 'Yes, we're all individuals!' It's laughable to talk about diversity if everyone is raising alfalfa as their third crop. The idea is to introduce new crops in the plural."

Recently, Illinois farmers made the troubling discovery that certain western corn rootworm beetles are able to survive a season in a field planted to soybeans. That's not suppose to happen: as their name implies, these beetles normally die when fed anything but corn. In fact, rotating soybeans with corn every other year has "traditionally" been used as the farming practice that breaks the breeding cycle of this pest. It appears that that strategy is failing. Some agro-scientists say the only solution (besides spraying the soy for corn beetle) is to rotate many different crops on the same land and change the two-year rotation to a three- or four-year rotation.

### THE RETURN OF AGROPASTORALISTS

One problem with implementing rotations is the current state of land-ownership economics



The upper Mississippi is a major source of the "Dead Zone" at the river's mouth, caused when nitrogen—56% of it from upstream fertilizer runoff—boosts algae populations, depleting the oxygen in near-shore waters. The Dead Zone covers 7,500 square miles: double its size in 1993. Its area once accounted for 40% of the US commercial fishery harvest.

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in agriculture. In regions where a lot of land is cash-rented from year to year, many farmers can't afford to build up soil and break pest cycles by allowing a field to go fallow or to be planted to a non-cash-crop plant for a season. They must pay the rent every year, regardless of whether that land produces a commodity that can be sold at the local elevator. Most landlords and lenders get nervous when farmers start planting crops that may not have an immediate, visible payoff.

And many crops that work well in long-term rotations—forages, oats, etc.—only pay off if they can be fed directly to livestock. It's no accident that the demise of dispersed, family farm-based livestock production as a major part of the region's economy goes hand in hand with major crop collapses within the cropping system. The same September day that Jaime DeRosier was checking out his new stand of rye and vetch, a local newspaper carried a story about yet another dairy-farming family going out of business.

A small, dedicated group of Midwestern farmers are bypassing the corn-soybean two-year rotation and mixing cash crops with livestock. "Management-intensive grazing" is a low-cost way of moving cattle, hogs, and even chickens through a series of small grass paddocks, often several times a day. This prevents overgrazing and helps spread manure over the land in a manner that the soil's biosystem can best make use of. Developed in France and perfected in New Zealand, this system has become particularly popular in hilly parts of Wisconsin. "I'm trying to mimic the movement of the buffalo with this system," says southeast Minnesota grass-based-beef producer Mike Rupprecht.

For the past several years, northeast Iowa farmer Tom Frantzen has experimented with making his farm more diverse. He has had good success producing antibiotic-free pork by giving hogs the freedom to follow their natural instincts and nest in straw and forage on open pastures (this method of livestock production, borrowed from Sweden, allows Frantzen to economically justify the production of grass and small grains). But the energetic farmer has found that nature can be a tough critic. A few years ago he got a lot of attention from the farm community when he planted his crops in alternating narrow strips. The idea was to confuse weed and insect pests with a pattern of lateral lines of diversity. It made for some beautiful photos at the height of the growing season: corn, small grains, and forages growing side-by-side in long loping lines that hugged the land's contour. But yields were another story altogether.

"Nature walked in and didn't have a good comment," the brutally honest Frantzen recalls. "The insect and weed pressure destroyed the cash crops." Frantzen has had more luck in recent years rotating these same crops but over a five-year cycle. He feels good that he is now farming in a "holistic" manner, treating all aspects of the operation as an interconnected whole, rather than as a series of disparate parts. The farmer says part of his management strategy is knowing limits—his own as well as the land's. "There was a good reason this was all tallgrass prairie."

But the reality is that monocropping still rules the day in American agriculture. Eighty percent of total farm production comes from only four species: wheat, corn, soybeans, and hay. Happily, the perverse subsidy system is coming to an end. The sixty-year-old government system that penalized farmers for planting anything but a handful of row crops is being eliminated under the auspices of the Freedom to Farm law. However, old habits die hard. Last fall, the USDA handed out special advance payments to cash-strapped farmers. If you raised crops like corn, you were in luck. If you had converted former corn land to, say, grass for management-intensive grazing, you were generally penalized financially.

"People ask, 'What's it going to take to get us out of the corn-soybean rotation?' I could stand here until I'm blue in the face and tell farmers it's not good, it's not ideal, there are better options. But that's not going to cut it," says Paul Porter, an agronomist at the Southwest Minnesota Agricultural Experiment Station.

The storage, transport, and grain-processing infrastructure that the government crop-subsidy system nurtured is a more difficult barrier to sustainable agriculture. It makes raising anything other than corn, soybeans, or wheat a logistical nightmare. Country grain elevators and local processors are often only set up to handle the basic commodities. Farmers like DeRosier often have to arrange special transportation and processing for any crops they raise other than "the big three."

Some of the reasons farmers stick with such a simple, if unprofitable, system are purely practical: they have the equipment and know-how to farm monocropped fields. But there is also a cultural aspect. Midwestern farmers, like Native Americans, have a love affair with corn.

## A BETTER ROW TO HOE

In some areas, consumer demand for chemical-free soils and pest-control systems is biodiversity's best ally. Demand for a safe food cultivated in an environmentally friendly manner may push farmers "back" toward the earlier cropping systems (supplemented by the best of the new techniques developed since the 1950s). If farmers cannot turn to fixes like chemical fertilizers and pesticides because of consumer pressure, they may be forced to rely on diverse cropping systems to add fertility to the soil and disrupt weed, insect, and disease cycles. They may also turn to integrated pest management (IPM), which encourages using insect predators to control crop pests. Beneficial insect-predators require habitats with a greater diversity of plants.

In recent years, crops like chemical-free soybeans have brought two to three times the price paid for their conventionally raised counterparts. This has caught the attention of some keen pencil-pushing farmers who are tired of losing money on monocropping. The market, though minuscule compared to total harvests, may blossom if Europeans demand soybeans that have not been genetically modified and that otherwise fit their definitions of "organic."

## A PUBLIC GOOD

All of this brings up an important point: In the long term, what guarantee do we have that diversity will become a major part of agriculture? There's a lot to overcome. Having many diverse species on one piece of land is in direct conflict

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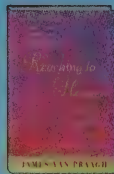
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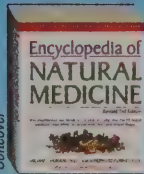
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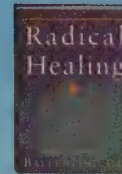
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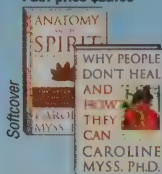
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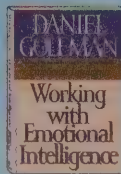


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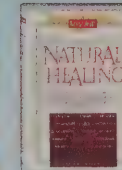
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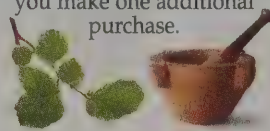
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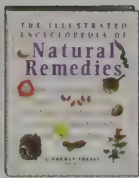
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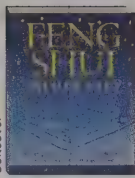
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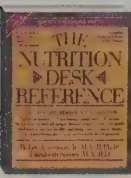


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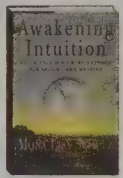
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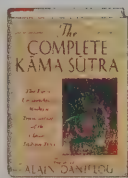
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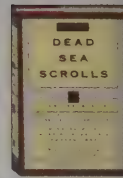
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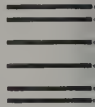
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livestock on farm	rarely	maybe	yes	maybe
<b>Economics</b>				
labor required	least	less	more	most
net price vs. ag biz	--	?	?	more (10-20%)
market demand	high	?	?	low
yields vs. ag biz	--	reduced	variable	reduced (0-20%)
regs/infrastructure	favor	favor less	favor less	favor least
conversion costs	--	moderate	high	high
net return	depends on costs, demand and price/income supports			

The transition to sustainable agriculture requires a new market and poses new risks to farmers. Alternatives to dominant ag business include low-input, diversified, and organic agriculture.

"Diversified" means more kinds of crops, trees, and livestock; more rotation; and "green" market products that reduce soil and ag pollution. "Low-input" requires no major changes in crops or inputs, just less intensity, with lower production goals, profits, and environmental impacts.

with contemporary farming's bread and butter—maximizing the production of a single plant. Organic premiums or health-food niches can help diversity pay financially, but diversified farming with low or no agrochemical inputs is still difficult to adopt and manage. Even farmers who are proving that diverse cropping can be viable concede that they are still learning as they go, and are constantly in need of more information.

And what happens if price premiums disappear? The farmers who are turning to diversified, chemical-free production out of financial desperation may not have the deep ecological roots needed to stick with it through thick and thin. What incentives are there for the individual farmer to increase diversity then? Not many, say economists, agronomists, and ecologists. Although the argument can be made that increasing diversity on a region-wide basis benefits all farmers (and wildlife, and water quality), it's difficult for an individual farmer to see an immediate payback. If the market is demanding corn, but it would be better for the sake of diversity if some farmers in the county raised hay, who decides which farmer raises the profitable crop and which produces the one that's good biologically?

The bottom line is that the market is increasingly dominated by short-term decisions that pressure the farmer. Ecologist David Tilman says that American taxpayers may ultimately have to find a way to support crop and farm-habitat diversity through subsidies. "The benefit to society in the long term may have to be weighed against the benefits to the individual farmer in the short term. Society may have to look at helping that farmer

establish an infrastructure for growing more than one crop."

While crop diversity has not been directly funded, diversity sneaks onto the farm via subsidies to accomplish other goals, especially erosion control and water quality. The Conservation Reserve Program, for instance, pays farmers to set aside cropland for ten years. Though "short term" in some eyes, and at the fickle whim of Congress, CRP has been a boon to water quality, grassland songbirds, huntable pheasants, and farmers' income security. An experimental cost-share program now helps fund farmer-installed conservation buffers (riparain zones, filter strips, grassed waterways, shelterbelts, windbreaks, duck ponds, etc.) which may also be habitats for beneficial insects. If successful, they would be another small step toward diversified farming.

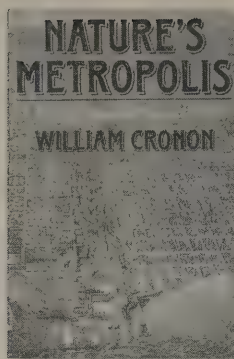
Despite all the questions left in the air, it is comforting to know there are farmers who are listening to the land first, no matter what the market, government policy, or peer pressure tells them to do.

"I've been on the other side of the fence and I will never go back. Anything that separates you from the land is wrong," says Tom Frantzen emphatically. "Right now in agriculture you have this total separation." ❁



Brian DeVore is editor of the *Land Stewardship Letter* (see review, page 90).

Prairie Chicken.



**NATURE'S METROPOLIS**  
Chicago and the Great West  
William Cronon. 1991;  
530 pp. \$15.95.  
W.W. Norton.

Simply the best American book on how the corn-belt countryside and the Windy City became the matrices of economic expansionism and ecological contrac-

tion. Here sits nineteenth-century Chicago, its Board of Trade turning grain into money; grain into meat. Rivers and rails. Lumber, land, and livestock. Watch infrastructure creep and connect. This is clear history that embeds and informs, while its subtext asks: Can what's been done be undone? Is there a better way? —PW

“Wheat and corn came to Chicago from farms that were themselves radical simplifications of the grassland ecosys-

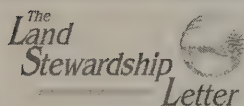


Right: Buying and selling on the streets of Chicago, 1868.

tem. Farm families had destroyed the habitats of dozens of native species to make room for the much smaller bundle of plants that filled the Euroamerican breadbasket. As a result, the vast productive powers of the prairie soil came to concentrate upon a handful of exotic grasses, and the resulting deluge of wheat, corn, and other grains flowed via the railroads into Chicago. And there another simplification occurred. In their raw physical forms, wheat and corn were difficult substances: bulky to store, hard to handle, difficult to value properly. Their minute and endless diversity embodied the equal diversity of the

prairie landscape and of the families who toiled to turn that landscape into farms...as the production of western grain exploded, and as the ability to move it came to depend on capital investments in railroads and elevators, the linkage between a farm's products and its property rights came to seem worse than useless to the grain traders of Chicago. Moving and trading grain in individual lots was slow, labor-intensive, and costly. By severing physical grain from its ownership rights, one could make it abstract, homogeneous, *liquid*. If the chief symbol of the earlier marketing system was a sack whose enclosure drew boundaries around crop and property alike, then the symbol of Chicago's abandonment of those boundaries was the golden torrent of the elevator chute.

## Farmers Access



### THE LAND STEWARDSHIP LETTER: KEEPING THE LAND AND PEOPLE TOGETHER

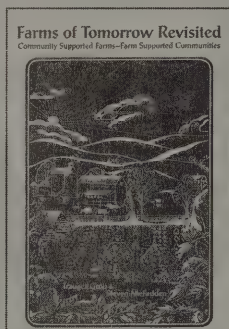
Brian DeVore, ed.  
Subscription (6 issues) is included with \$30 membership in the Land Stewardship Project, 2200 4th Street, White Bear Lake, MN 55110. 615/653-0618, lspwbl@mtn.org, www.misa.umn.edu/lsphtml.

The Land Stewardship Letter is one of Whole Earth's favorite newsletters. Minnesotan ruminations on farmland stewardship, sustainable ag, and communities. It's the bioregional reality check. Grounded, intimate, striving, practical.

**RODALE INSTITUTE**  
611 Siegfriedale Road, Kutztown, PA 19530. 610/683-1400, seel@envirolink.org, www.enviroweb.org/publications/rodale.

Based on a 333-acre farm in Pennsylvania Dutch country, this famously associated

nonprofit promotes regenerative food systems—in other words, farming that nourishes both us and the environment.



**FARMS OF TOMORROW REVISITED**  
Trauger Groh and Steven McFadden. 1997; 294 pp. \$17.50. Chelsea Green.

Best access to the Community Supported Agriculture movement. Philosophical, spiritual, practical essays and how-to (including financial discussions). The source for tools, organizations, farms, networks.

**AMERICAN FARMERS**  
Gilbert C. Fite. 1981 (out of print).

A look at the history of family farming from the 1920s to the 1980s. Fite is no romantic—he has been a small farmer him-

self, and doesn't glamorize the idea of being a family farmer. He explores how the rise of agribusiness, new farming technologies, and government policies have hastened the exodus of people from the land. [Suggested by Diana Hadley.]

## Soy Access

**SOYFOODS CENTER**  
PO Box 234, Lafayette, CA 94549. 925/283-2991.

**THE BOOK OF TOFU**  
William Shurtleff and Akiko Aoyagi. 1998; 336 pp. \$19.95. Ten Speed Press.

The pioneer of idealism through soybean love. Soy for world hunger. Soy for health. Soy to heal the planet. *The Book of Tofu* (more appropriately “The Tofu Way”) is the Center's spectacular success. A major author and resource, Bill Shurtleff helped Dan Imhoff

with his article and us with great illos.

**U.S. SOY**  
2808 Thomason Drive, Mattoon, IL 61938. 217/235-1020, www.ussoy.com.

THE ONLY WHOLESALER of organic and non-organic soybeans guaranteed to be free of ANY genetically modified (GM) contamination. President Jim Skiff buys his beans only from farms not growing—and not surrounded by—genetically engineered crops. His cleaning plant is never used for GM grains or seeds. His principal business is overseas—where the market craves GM-free products. He hopes the US will get on board. [Suggested by Bill Shurtleff.]

**SOYBEANS Chemistry, Technology, and Utilization**

KeShun Liu. 1997; 532 pp. \$90. Aspen Publishers, Inc.

By far the best technical reference book on soybean biology, chemistry, agronomy, and products.

**STRATSOY**  
www.ag.uiuc.edu/~stratsoy/new/indices/everything.html

Instant access to soy production, use, and market info. Agricultural legislation, weather data, research pro-

posals, general government information, etc. Best “Ask an Expert” for the whole ag economic ecosystem.

## U.S. SOYFOODS DIRECTORY

Free (annual). Stevens & Associates, Inc., Indianapolis, IN. 800/825-5769, sfd@soyfoods.com, www.soyfoods.com.

The Indiana Soybean Board's scoop on product manufacturers, nutrition, distribution, recipes, organic-only growers, and more. Request the free forty-eight-page directory or download from the Web site.

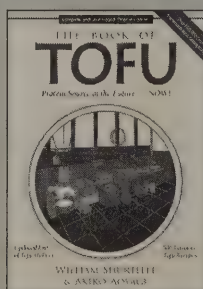
## SOYFOODS USA

Free (monthly). Stevens & Associates, Inc. www.soyfoods.com.

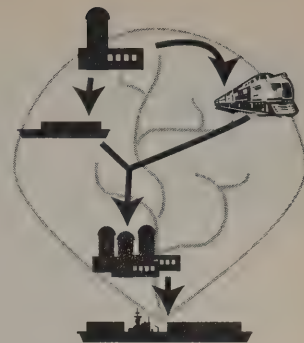
An info-packed electronic newsletter, delivered monthly to your email address. Request through the Soyfoods Web site.

## SOYA BLUEBOOK PLUS

www.soyatech.com  
The global-oilseed business's “Yellow Pages.” Chinese soy stats? Palm oil markets? Industrial soy anti-foam agents? Soyatech's *Bluebook Update*, at the same site, offers multinational access.



# COMMERCE: SOY IN THE MISSISSIPPI RIVER BASIN



I like to think of the US Heartland as a bad personal relationship between the Mississippi Delta and the Chicago Board of Trade. They need to talk. There's no feedback between economic productivity and ecological regeneration. The upstream guys love money from soy/corn futures; the downstream fishermen go broke because farm pollution has deadened 7,500 square miles (40 percent of the US fishery harvest). The upstream guys set the world price for soybeans; the downstreamers lose their shirts.

Futurists must ask: Is it trade itself that causes the river's demise, or is it the style of transport (trucks, barges, rail), or the design of the overall food-delivery system? Can we imagine an eco-friendly and equitable trade route? *Whole Earth* looked for and never found a design for such a trade route. The compassionate traders seem to spend their time fighting the free traders. Anybody got any ideas?

A soy farmer in western Minnesota, for instance, might ship his crop 200 miles by truck to Port Cargill at the confluence of the Mississippi and Minnesota rivers; 1,200 miles by barge to New

Orleans; 3,000 miles to Rotterdam, and then 200 miles to Paris. (Or the soy could travel by truck to a local grain elevator, then by rail to Seattle, and then on to China. Or it could go from the farmer's grain elevator to a local processor by truck or rail.)

One idea—developing gene-spliced local crops to substitute for trade—typifies how small changes will cause global turmoil. Genes for caffeine have been successfully transferred to soybeans to create a soy-based instant “coffee.” Midwesterners will soon grow soy “faux coffee” beans. You may start hearing: “Please pass the soy-based creamer for my Iowa City Instant Soy Coffee.” Central and South American and African growers and exporters

The Mississippi-Missouri is the fourth longest river on the planet (3,870 miles), with the fourth largest river basin (1.3 million square miles) and the sixth largest discharge at its mouth (18,000 cubic feet per second). Among the top rivers in the world (including the Nile, Amazon, Yangtze, Congo, and Paraná), the Mississippi is by far the most polluted with fertilizers and toxic petrochemicals.



Gulf sturgeon. Photo by David Littschwager.

NATIONAL BIOLOGICAL SURVEY



Habitat loss on a stretch of the Mississippi modified for navigation (right) contrasts with the diverse complex of habitats on a less developed stretch of the upper Mississippi. Wing dams trap silt, destroy wetlands, and deepen channel for barge and boat traffic.

**THE MISSISSIPPI RIVER BASIN ALLIANCE**  
 2105 First Avenue South, Suite 301, Minneapolis, MN  
 55404. 612/870-3441, mrbaoffice@mrba.org,  
 www.mrba.org/mrba.

The largest-scale coalition uniting environmental justice and conservation for the whole river basin. Dedicated to protecting and restoring the basin's ecological, economic, cultural, historic, and recreational resources, and to eliminating barriers of race and economic status.

should expect to lose market share. The acreage that went to coffee beans for instant coffee will be lost; laborers will be jobless.

In short, traders, bean crushers, barge and train shippers, Congress, taxpayers, State Department food-aid administrators, gene splicers, grain-elevator operators, and a small heroic group of citizens in the Mississippi River Basin Alliance join farmers enmeshed in a global food system that is definitely short on empathy, if not organizational sympathies. —PW

## A FEW POINTS OF INTERVENTION IN SOY COMMERCE

*A feedback mechanism is part of a loop. It returns information back to the sender, typically in a new message like speed up, slow down, or hold steady.*

**AMBIGUOUS FEEDBACKS:** The US government buys soybeans; especially when the market price is low. By buying high, the government assures farmers that their crop will not experience a price crash. Its purchases are a corrective feedback to stabilize incomes to farmers. The government then gives or cheaply sells the soy to nations in need of assistance. Free or cheap food can set up a perverse feedback loop that discourages poor farmers in those nations from planting similar grains. One feedback props up American farmers' prices and fuels another feedback that hurts the long-term self-sufficiency of others.

**NO INFORMATIONAL FEEDBACKS** exist on a global level to ensure soyfood safety for consumers. Consumers get no info about the difference, for instance, between gene-spliced and "regular" soybeans. The US refused to sign the Convention on Biodiversity (Rio de Janeiro, 1992) because it required labeling of gene-spliced foods. Angered European consumers sent a message back through the cashflow feedback circuit; they refused to buy any US soybean products.

**RULES:** Chicago Board of Trade's grades and standards for soybeans do not distinguish "regular" varieties from gene-spliced or eco-friendly beans.

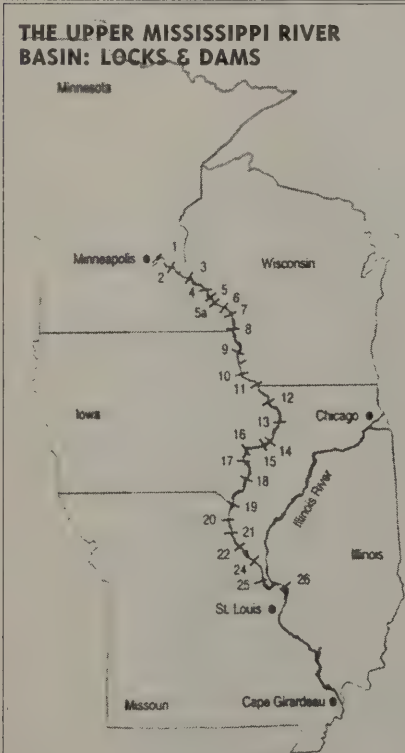
Grain elevators mix all farmers' soybeans together, creating barriers to separate, parallel markets for "regular," gene-spliced, and eco-friendly beans.

Both rules freeze market patterns. In order to change the market's organization, buyers must demand parallel-purchasing agreements with segregated transport.

**BARGES AND RAILCARS:** Each barge on the Mississippi-Missouri moves 50,000 bushels of corn (1,500 tons): as much as fifteen railcars. A typical barge convoy has fifteen barges (750,000 bushels): more grain than two 100-car trains can transport. At St. Louis, where the river widens and the last lock is passed, the tow can be doubled (to thirty or more barges, or 1.5 million bushels). And barges can back-haul (fertilizer, coal, salt); railroad cars are too specialized, and return empty. Railroad deregulation set up competitive prices; although barges can haul more, they are more expensive and wouldn't exist without subsidies. Barge subsidies will shape the future prices of transport.



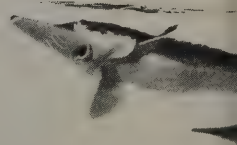
The Upper Mississippi and Rios Paraná/Paraguay Basins are the world's two heartlands of soy. Both compete for market share of exports. Both ship by rail and barge. The transformation of the South American rivers and prairies is duplicating (with a vengeance) what occurred in the Mississippi Basin and the American Midwest. Lowering soy production or prices in the Midwest encourages Brazilian farmers to plow more *cerrados* (savannas) and grab more market share.



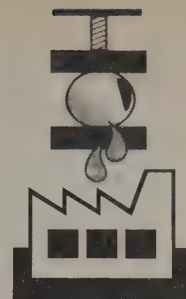
Perverse feedback occurs between the two gigantic, soy-competitive river basins. Barge-traffic subsidies and intercontinental competition destroy the river basins with no corrective feedbacks for biodiversity or other economic sectors (e.g., fishing).

Upper map shows the Rios Paraná/Paraguay Basin with new railroad line and river channels, and landlocked parts of Argentina, Paraguay, Bolivia, and Brazil.

Lower map shows dams on the upper Mississippi that alter flow regime, water quality, wetlands, fisheries, and flyways. In 1994, agro-exports from the US accounted for 40 percent of the worldwide trade in soybeans. About 70 percent of all US grain moves by barge.



# THE CRUSHERS & COMMERCE



Here's how out of control the soybean/corn food system can become. Early this year, soybean prices hit a twenty-three-year low. American farmers planted more soybeans because they knew that government price supports would kick in. (When the price bottoms out, the government ensures a minimal price and farmers make more money by sticking with soybeans than by switching crops or letting the field lie fallow to recover its fertility and shelter various birds and insects.) Lowest prices but more soybeans planted. Not a balanced way of thinking.

In addition, the Brazilian *real* crashed. The more highly valued dollar now buys more soybeans from Brazil on a dollar-for-*real* basis. Cheaper Brazil soybeans attract global merchants, who shun Midwestern beans. To compete, the price of Midwestern beans sinks even lower.

And, Europe has rebelled against gene-spliced imports. US farmers caught with "Franken-beans" in their soils can't sell to exporters who sell to Europe. They must sell into the overcrowded market selling to China—which, like the US, doesn't care what kind of seed turns into soy sauce. The price goes down once again.

Another thing: crushers can play the meat market. If hog factories will pay more for soy meal, then that's whom they'll sell it to. Ditto to poultry megafarms or beef feedlots. But the price to you doesn't change, because market surveyors have figured out that American consumers pay more attention to price increases than decreases. Low-priced soybeans and soy meal, cheaper meat, but the same price to you. The middle stages of the food system enlarge their profits while both ends feel the squeeze.

Who and what sets prices at each stage? The

farmer, the crusher, the processors of meat and crude soy oil, the wholesale/retail markups, consumer demand? Who can keep in mind all the influences on price formation—tariffs, corporate-debt structure, the shell game of mixing and matching sectors within a corporation, exchange rates, and regulatory policies? The Chicago Board of Trade and its futures-speculators try, but, to say the least, price formation is an inexact discipline.

Contrast a food system that may be too big for its britches with the old-style watershed communities. The farmers fed their own corn/soy to the hogs and brought them to the local butcher who sold them to the local folks. Maybe 1,000 watersheds still have this lovely clarity. Carl Quintanilla (page 97) describes the owners of Dewig Meats, who know more about "ethical feedback loops" in food systems than all the professors at MIT. Here, we can still see how sustainability works with a hometown sense of equity, how the fair price for a hog is adjusted to good times and bad times, how the fair price contrasts with corporate maximum profits, and how communities give context to market systems, providing personal feedback that overrides attitudes of greed. Loyalty and everyone doing his or her part to make equity happen. A long-distance sense of responsibility.

Contrast this small-town tone with Maurice Telleen's jeremiad in "Hog Wars" (page 94). Can the soy/corn/farm factory subsystem be reorganized? Is there excess profit at the crushing stage? At the meat processors? There are, as yet, no price incentives that link community organization with market organization; that link profits with environmental care. Help! Where is hope? Where are the points of leverage? —PW

## factoids

- Meal accounts for 2/3 of soy's money value; oil for 1/3.
- US soy crushers: Over 80% of US soybeans are crushed by five companies: ADM, Cargill, Bunge, Continental Grain, and Central Soya. They control a similar share of capacity worldwide. Ag Processing Inc. (a farmers' co-op) has 5-10% of capacity. Many of these processors are leading exporters.
- Broilers: 55% of US production is controlled by Tyson Foods, Gold Kist, Perdue Farms, and ConAgra.
- Beef: 87% of US slaughter is by IBP, ConAgra (Armour, Swift, Monfort, Miller), Cargill (Excel), and Farmland Industries (National Beef).
- Pork: 60% of US slaughter is by Smithfield, IBP, ConAgra, and Cargill.
- The margin between the price paid by crushers and the oil/meal selling price has increased in the last twenty years. Farmers' margins between costs and farm-gate prices have faltered.
- Soybeans account for 85% of US oilseed production. Soybean prices in the US set prices for the globe—modified by Brazil and alternative oils.
- About 95% of soy oil is bottled or otherwise sold to retailers as margarine, shortening, and home cooking oil. The edible-oil industry for soy, palm, canola, peanut, sunflower, sesame, and flaxseed is highly concentrated in Kraft (US) and Unilever (Europe).

# Hog Wars

BY MAURICE TELLEEN



"DANE COUNTY, WISCONSIN, 1966." © GREG CONNIFF.

"Dane County, Wisconsin, 1966" will appear in a forthcoming book of Greg Conniff's photography.

Like most Iowans, I go back a long way with hogs. They have been leading citizens of this state ever since the plow met the tallgrass prairie, and tile lines and drainage ditches dried up the sloughs. This changed the face of the land completely, into little squares of sections, townships, and counties with a courthouse and a sale barn every twenty or thirty miles. Very good habitat for hogs.

One culture was destroyed to make way for another; an old story. There was an inevitability to it, and while what was created certainly wasn't perfect, you would have to say it functioned fairly well. Whatever its flaws, and they were considerable, it did sustain a much greater population than the hunter-gatherer model it replaced.

The culture, based on family farming, was called agriculture. That phrase—"family farming"—is a battle cry in the Hog War, the growing conflict between huge hog factories and independent hog farmers. Both sides invoke it without defining it, to the point that it is almost useless except as cover in political campaigns.

Harold Breimyer, my favorite ag economist at the University of Missouri, knew what *he* meant when he used the expression. He defined it as:

...an agriculture in which farmers and their families are owner-operators who

buy and sell in the market, make the managerial decisions and take the associated risks. They are both laborer and boss, and they own some land. We do not require that they own all the land they farm, but lifetime tenancy is not family farming. Farming families must provide at least half the labor, the rest can be hired.

It is a social, as well as an economic, institution that denies servility. It was born of refugees from Europe's serfdom where the tiller of fields and the tender of herds was lowest on the totem pole. Immigrants to the new nation wanted to be yeomen. They objected to re-establishing a class-stratified agriculture.

The immigrants wanted to leave that kind of feudalism behind, build something better, and they managed to pull it off. Breimyer knew both what it was and why it was—that it had social as well as economic origins and consequences, that it included community concerns as well as private economic concerns, and that they were linked.

There have been some strange claimants to family farming in this Hog War. It is almost as though Henry Ford were to have asserted that he was just running one hell of a big garage/blacksmith shop when those Model Ts and As were

jumping off the assembly line like rabbits out of a fence row. Some of the family-farming claims in the Hog War have been almost that absurd. (One of the largest hog conglomerates in the nation calls itself Murphy Family Farms.)

What remains of that family-farming culture has been savaged by this industrialization of hog production. Like most wars, it did not come out of the blue. Poultry preceded it. Horses and mules preceded poultry. One might say these revolutions were inevitable, too, just as the European farmer replaced the Native American hunter-gatherer; however, that is not necessarily so. All these steps or modifications from homesteading the virgin prairie to the Hog Wars have been aided, abetted, and propelled by public policy. The results have always been hailed as progress and the benefits widely heralded, generally in terms of economic measurement. And in every case, the losses have been dismissed as acceptable or inevitable or collateral damage in pursuit of a greater good.

Because of industrial successes such as Ford, we have been conditioned to accept that bigger is better because it is more efficient...in every case. Breimyer again disagrees, stating that "taxes are the progenitor of much bigness in farming. Big farms, including the newest entrant [he said this in 1982], the large confined-hog operations, are highly influenced by tax law."

So that is what this Hog War is about...public policy in Iowa and elsewhere, which should be about the greatest long-term (sustainable) good to the most people at the least cost in terms of economic/losses, environmental damage, and social dislocations.

Breimyer is right. Most of the carrots and the sticks can be found in the tax laws. That is the only way to make the walk square with the talk. The dry old tax laws are where a country really decides what kind of place it wants to be...not in the rhetoric.

Furthermore, purely economic measurements are often inadequate when dealing with cultural (as in *agricultural*) problems. Knowledge is always incomplete and consequences are always manifold.

Since this is a war, let's tally up the likely gains and losses:

**EFFICIENCY:** This is the Golden Calf itself. Iowa has about as many hogs as it did a generation ago, but the number of farms with hogs has declined from 41,000 to 18,000 in the last decade (and is falling fast), and there was a substantial decline prior to that decade. This is a toboggan ride that is nowhere near over if present trends continue. The big operations are apparently "efficient" in

the narrow sense of the word; at least they are successful at driving others from the field. This is not an "adjustment," this is Sherman's March through Georgia—to continue with the war metaphor.

**PRODUCT:** I expect there has been considerable standardization of product via genetics and a controlled habitat. Purebred-hog breeders had already made great strides in producing a lean hog. That genetic base is now much smaller, as the grassroots breeder has diminished and some breeds have almost vanished. This is another case of collateral damage, but... "don't worry," we are told.

Well, that was easy. It is a pretty open and shut case, isn't it? Looks like with a relative handful of producers we can all eat pork chops as enthusiastically as L'il Abner did and be pretty sure that they will be neither too fat nor too lean, but just right and relatively cheap, too. Another triumph for the industrialization of agriculture. And the beauty of it is that few Americans will ever have to meet a hog as long as they live. How civilized. How lovely.

But we find ourselves in the midst of a war. So what does the "other side" have to offer as an excuse for resisting such a splendid outcome?

1. The brood sow has offered relatively low-cost access into farming for beginning farmers in Iowa since the plow met the prairie. I suspect that the sow has put more young farmers on their feet and on the road to farm ownership than any other single thing in this state. Litters (rather than singles or twins), rapid generation turnover, and multiple farrowings during the year offer a buffer to the ups and downs of the market. Moreover, their adaptability to a wide variety of buildings and management systems, combined with their omnivorous appetites, allows them to grow well on everything from acorn to alfalfa to corn. In terms of modest investment and quick payback, they have been wonderful vehicles of entrepreneurship. As we lose the sows, we will simply have to schedule more seminars on entrepreneurship (to replace them). They can be worked in around the "How to Handle Stress" seminars. Maybe offer two for one.

2. When a hog producer is forced out of business, it may end his whole farming career (if hogs were the mainstay) or reduce the diversity of his operation. Either way, it has a ripple effect through his own community. What is lost is the multiplier effect of dollars spent, and re-spent, "at home."

So the success of Sherman's March to the Sea (in the hog business) is also impacting on our beleaguered rural communities. The victorious army is further sapping the vitality of small farm towns as it depopulates the countryside. It is



enough to make a hog wee. Also people.

3. Then, there is the question of the stink. It takes your breath away. A few counties in north central Iowa smell so bad at times that I don't know how people can continue to live there...and this is another phase of the War, a war that has cast property rights in a new light and pitted neighbor against neighbor. It is a little like Northern Ireland except here the reason is blowing in the wind rather than bred in the bone. We even had a protest march led by monks from the New Melleray Abbey up in northeast Iowa, objecting to a proposed 1300-sow unit nearby. That would be 26,000 little pigs every year. It was estimated that it would produce a mere two million gallons of liquid manure a year. The monastery, an Iowa treasure with 10,000 visitors annually—a wonderful place—was praying for a miracle to keep the proposed setup from being built.

In September our State Supreme Court, by a vote of 7-0, gave “our side” reason for hope by striking down a state law that had shielded farm operators from lawsuits aimed at the odor of large hog-confinement units. A large insurance company (Farm Bureau) promptly responded that this was just awful—a below-the-belt hit that would devastate agriculture. When a big insurance company reverts to using “agriculture” instead of “agribusiness,” you know they are serious!

4. But, Wait Ho, the Cavalry arrives! Our land-grant school (Iowa State University) at Ames is riding to the rescue. They are working on the odor problem, but it is more than the stink. Things sometimes stink for a good cause—rotten eggs, for example. Masking the smell of ammonia and hydrogen sulfide does not remove the health hazard they pose; it does not transform them into rose petals and apple blossoms.

In addition to the air pollution, which is inescapable to any transient visitor, is the hazard to our streams and underground water table. You can almost depend on another big fish kill story someplace in the state every couple of months, as the sad tale of one manure lagoon leak or spill follows another. Fish die. Somebody counts them. A fine is levied. We are brothers to the fish.

It has even produced some unusual “bad

news—good news” scenarios. A spill of 420,000 gallons oozed into a creek in Hamilton County (right in the heart of the big stink area). It was the biggest of the year, at least up to that time—that was the bad news. The good news was that the number of dead fish was far less than it would have been had there not been an earlier spill in 1996, as the fish population had not really recovered from that one.

So there you have it—Total War...as people like Sherman understood it. And as with war, it has long term effects on people and places. Young men and women—a whole generation—have been scalded themselves like butcher hogs by this experience. Believe me, they are not going to survive as hog farmers. They have been told for some time that the small independent producer cannot make it. That they are anachronisms.

If the great percentage of our pork needs are going to be met by mega-producers or producers under contract to the giants, the fate of the independent is about as promising as that of the Plains Indian after the slaughter of the buffalo. Or, in this case, the hog.

Destroying cultures (even subcultures like hog farming, horse farming, and mother's flock of hens) is a serious business. It should be a felony, not a misdemeanor. Not only is it serious, it is careless. It violates the first rule of tinkering...“to save the pieces,” or at least most of them.

I've tried very hard to think of a hopeful note on which to end this report from the front, but I've failed. I think our cause is just, but our chances are slim. There is something about the temper of the times that places a blind faith in bigness and has a contempt for the messy sort of efficiency that once had our pork supply in so many more hands, supporting, in part, virtually every farm, town, and city in this state. There is a rough kind of biblical efficiency in having livestock out gleaning harvested fields, something that is far less commonplace now. It made you feel frugal just to watch.

We don't go south in the winter. We don't have to. We can feel like Georgians right here. And they say Sherman is just over the next hill. Sometimes we can smell his artillery. ❀

Maurice Telleen lives with his wife Jeannine in Waverly, Iowa. Until recently, they owned and published *The Draft Horse Journal*. Wendell Berry dedicated *The Unsettling of America* to him. This article first appeared in *The Land Report* (Spring, 1999), in slightly different form.



# An Old-Style Butcher On the Knife-Edge

THE DEWIGS CAN MAKE A KILLING OR THEY CAN  
SHOW CONCERN FOR THEIR RURAL NEIGHBORS



*There's a lot of talk about family enterprises versus the Big Corporations; about sustainability and unsustainable futures. We all know that personal ethics are a crucial slice of the pie. A "fair profit" may be the defining ethic—it takes into account when others involved in your economic world are having a hard time or exceptionally good times. Here's a story of how fair profit works in the heartland of America. Whether you eat pork or not, the Dewigs walk the talk of good neighbors and profits adjusted to community; a way of life that clearly sets them off from the big packers and brokers. —PW*

**H**aubstadt, Ind.—As farmers here saw hog prices plunge to Depression-era lows this winter, they felt as if salt were being rubbed in their wounds. For even as they were losing heavily, somebody down the line—big meatpackers or supermarket chains—seemed to be getting rich on pigs: the price of pork at the supermarket was staying about as high as ever.

"These big companies are essentially saying, 'Your goods are worth \$20—we'll pay you \$4.'"

BY CARL QUINTANILLA

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says Tom Dewig, a local businessman. "That's what our farmers are going through."

He knows what he's talking about. His business is Dewig Meats, a place where hogs waddle in the back, then are displayed out front a few hours later as ham and sausage. Mr. Dewig (pronounced DAY-wig) is a meatpacker and a meat retailer, too.

But he's not one of those "big companies," for whom farmers' pain is assumed to be just an abstraction. Mr. Dewig lives right here in Haubstadt. His delivery truck, with a pink pig painted on the side, is a familiar sight as it rumbles through this small town's streets. Dewig Meats, run by Tom and Janet Dewig, even caters local picnics.

## Rare Moment

So what to do? On the one hand, the depressed hog market presented the chance of a lifetime for them, a historic "spread" between what they could

Left to right: A prize winner and her entrant; Janet and Tom Dewig; the Dewigs' porcelain pig. Line drawings and leftmost photo from *A Guide to Raising Pigs* (see page 99).

buy pork for alive and what they could sell it for dressed. But if the Dewigs made a killing on this, they knew they were doing it off the misfortune of hard-working rural neighbors, some of them on the verge of bankruptcy. And other people would know it, too.

Then again, the Dewigs are hard-working themselves, and they too have their dreams. The couple, both 52 years old, wanted to expand and remodel the business. "It was difficult," says Mr. Dewig, as he recalls the family's deliberations over how to deal with local farmers when the hog business first fell out of bed. "Prices were an absolute bargain, but we also had to know in the back of our head that if we weren't fair, we'd end up paying for it."

This isn't the kind of thing that much troubles a big, publicly held company. It is different when, as Mr. Dewig says, "I've got to live with these people."

Except for the 175-year-old Log Inn, said to have once served Abraham Lincoln, Dewig Meats is about the only widely known business in Haubstadt, a town of 1,445 set among the rolling hills of southern Indiana. Dewig has fifty employees and close to \$10 million in annual sales. But it is also something of an anachro-



nism. As a few companies like IBP Inc., Excel, Smithfield Foods Inc., and the Swift & Co. unit of ConAgra Inc. have grabbed most of the hog-slaughter business, and as supermarket chains have supplanted local butchers, the independent meat shop with its own "kill floor" has been getting scarcer. Only about 1,800 remain, and almost nobody is opening a new one. Dewig Meats dates from 1916, when Tom's grandfather started it.

It is a place where locals take visitors, showing them displays of special cuts and sausages made from local livestock. Its following is loyal. "Nothing compares to what those guys make," says Thomas Chamberlain, a South Carolina resident who never visits his mother in Haubstadt without buying a ten-pound box of the Dewigs' frozen bratwursts to grill at home.

The Dewigs have made a good living. Their home is a brick estate with a circular driveway,

topiary, and pig statues. But they don't take their welcome for granted. Each June they have a customer-appreciation day, selling bratwurst for a quarter and giving proceeds to a hospital. ("They hire extra people just to help park the cars," says City Clerk Bonnie Wagner.) When the volunteer fire department's oldest engine, a 1947 Ford, was about to be taken away by a vintage-truck collector, Mr. Dewig bought it. He gives schoolchildren rides in it.

Mr. Dewig typically pays hog farmers the same price as Excel, a Cargill Inc. unit and the nation's second-largest meatpacker, which has a large plant down the road. Dewig Meats can slaughter a mere 200 hogs a week, but some farmers would rather sell to it than to Excel; that way they know their produce is served on local dinner tables and in restaurants.

And selling to the Dewigs is more personal. The Excel plant is a fortress-like edifice with a wire fence and security guards at the gate. At Dewig Meats, a farmer dropping off livestock can sip coffee with the proprietors while watching his hogs amble off trailers. (Their next stop is the kill floor, where a bolt of electricity to the head kills them, after which half a dozen workers with knives set to work.)

The loyalty is such that when hog prices rose two years ago to a lofty 63 cents a pound, a few farmers offered to sell to Dewig Meats for about 60 cents. Mr. Dewig wouldn't accept the discount. "No matter what I said, I couldn't make him do it," says Joe Knapp, a farmer. "I know he was losing money on that pork." Large packers also took a beating in that period.

That price spike helped fuel a nationwide hog-herd overexpansion, which began to depress prices last summer. By August, prices hovered at 30 cents a pound, or about five cents less than break-even for most growers.

At his meat shop, Mr. Dewig rushed to a monitor each morning to check the price of hogs, unable to believe his eyes. "We'd sit there and look at the thing and say, 'It can't go any lower.' But it did," he says, shaking his head. "The next day, we'd

say, 'It can't go any lower.' But it did again."

Mr. Dewig had always said that no hog should sell for less than 30 cents a pound. So when the market price dipped into the mid-20s in September and October, he continued paying farmers 30, knowing that even at that price, he could profit handily. By Halloween, though, the price farmers could get elsewhere was down almost to 20 cents. Mr. Dewig finally broke his rule and started paying less than 30 cents. "I lowered my standards," he says.

When the market price fell into the teens, Mr. Dewig set himself a new floor: 20 cents a pound. But then, in mid-December, prices briefly dipped below 10 cents a pound—about a sixty-year low—and Mr. Dewig lowered his standards yet again. Still, on a day when the Excel plant was offering farmers 11.5 cents a pound, Mr. Dewig offered a nickel more.

Like hog growers all across America, farmers around Haubstadt were losing megabucks. A 240-pound market-weight hog that would have brought \$140 or so a few years ago was at one point worth only \$25 or \$30. Farmers were losing roughly \$50 a head, just when the profitability had vanished from virtually everything else they could raise.

But IBP Inc., acquiring hogs at this depressed price, saw its profits quadruple in the fourth quarter. Besides the low hog prices, packers benefited from being able to run their plants at full capacity, and thus efficiently. Packers lowered wholesale prices somewhat, but they by no means passed along all their savings.

Meanwhile, supermarkets, although they had room to cut pork prices, had scant competitive reason to do so. For one thing, food shoppers are chiefly sensitive to price increases, not to price cuts. And in this case, even if price cuts did spur demand, supermarkets couldn't obtain more pork to sell, because the packers couldn't kill hogs any faster. Both industries reject farmers' suspicions of collusion.

The Dewigs also fared well: they had the best fourth quarter in their history. "Our margins went up because costs were low—plain and simple," Mr. Dewig says.

He and his wife started celebrating: Pursuing their dream of expansion, they put \$300,000 into new freezers and slaughtering equipment. They are planning a \$1.6 million improvement to the store's retail front, expanding the sixty-foot refrig-



erator case, which holds a mother lode of rib-eye steaks, pork chops, and smoked jowl. This month, the Dewigs missed the installation of a new smokehouse because they were on a cruise to Barbados. The meat business "has been good to me," Mr. Dewig says. "Real, real good."

For his hog-farmer neighbors, the above-market prices Dewig Meats paid helped ease both losses and resentment. "He's fair," says Ray Rexing, who has sold hogs to Mr. Dewig since 1970.

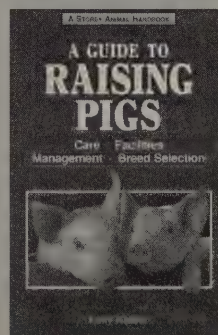
Mr. Knapp is of two minds. Mr. Dewig "understands we're losing our a— and he's making money faster than he can rake it in," the farmer says. But the next moment, he recalls the losses Mr. Dewig himself took two or three years ago when hog farmers were doing well, and calls him a "dang good guy."

Talk of farmers throwing their hands in the air in frustration elicits only understanding from Mr. Dewig. "Where would your hands be?" he says. "Some were out of humor, and rightfully so." Still, inside the shop, farmers' plight has created tension with customers who sometimes "look at you like it was your fault," says Mrs. Dewig.

To convince farmers of its support, Dewig Meats advertised that it would sell pork items at special prices every week. One week, while supermarkets charged \$1.99 a pound for pork loin, Dewig Meats sold it for 99 cents. "I've never heard of anyone else doing 99 cents a pound," says Steve Pohl, another local farmer.

Hog prices have rebounded a bit. Some economists expect them to get back above 35 cents a pound later this year, which would narrow farmers' losses and meatpackers' and meat retailers' profits. Mr. Dewig says nothing will have changed between him and his suppliers, some of them friends since grade school. He says he is pleased with "the way I've treated these farmers....And I'm sure they are, too." ❀

Good hog raiser, good people. From *A Guide to Raising Pigs*.



## Porcine Access

**A GUIDE TO  
RAISING PIGS**  
Care • Facilities •  
Management • Breed  
Selection

Kelly Klober. 1997; 313 pp.  
\$18.95. Storey Books.

Gourmet pork.

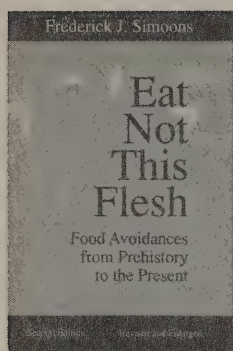


# SOY MEAL & MEAT

The wondrous soybean is taxing our brain with ethical and dietary questions, especially in the richer industrialized nations where we have so many choices not available in poorer nations. What a luxury. Should our hamburger come from feedlot cattle finished on grains, on irrigated pasture, or on unattended range? Should our pork, chicken, and turkey come from factory farms, or be "free ranging," with or without antibiotics, stimulants, or organic feed? Should we become vegetarians or vegans? —PW

*What is a reasonable amount of meat?*

*The recommended dietary allowance of protein per adult is 56 grams per day (meat and/or vegetable protein). Americans on average consume 75 grams per citizen, per day, of meat protein. In addition, they eat about 34 grams of available plant protein—109 grams of available protein per capita: nearly double the RDA.*



## EAT NOT THIS FLESH Food Avoidances from Prehistory to the Present

Frederick J. Simoons. 2nd ed. 1994; 550 pp.  
\$45. University of Wisconsin Press.

**The cheapest and most reliable technique for changing a food system is to make certain foods taboo. Religion is the lowest-cost cultural tool. No ads or medical research. Free education by parents. Science's "taboos" (so much sugar or fats or cholesterol) are, in fact, difficult to implement; they are based on quantities that are hard for us everyday folks to track. It's**

**easier to be absolute: No pork! No soda pop! No dog! Vegans and vegetarians understand this simplicity.**

*Eat Not This Flesh* lovingly details the origin and spread of food taboos, challenging certain claims that it's all hygienic or ecological. Simoons elaborates the tangle of human moral history which can feed or starve taboos against beef, pork, chicken, eggs, horse, camel, dog, and fish. Scholarly in style, an utterly fascinating and thoughtful text. A must for those who want to leverage Earth healing with futuristic food prohibitions. —PW

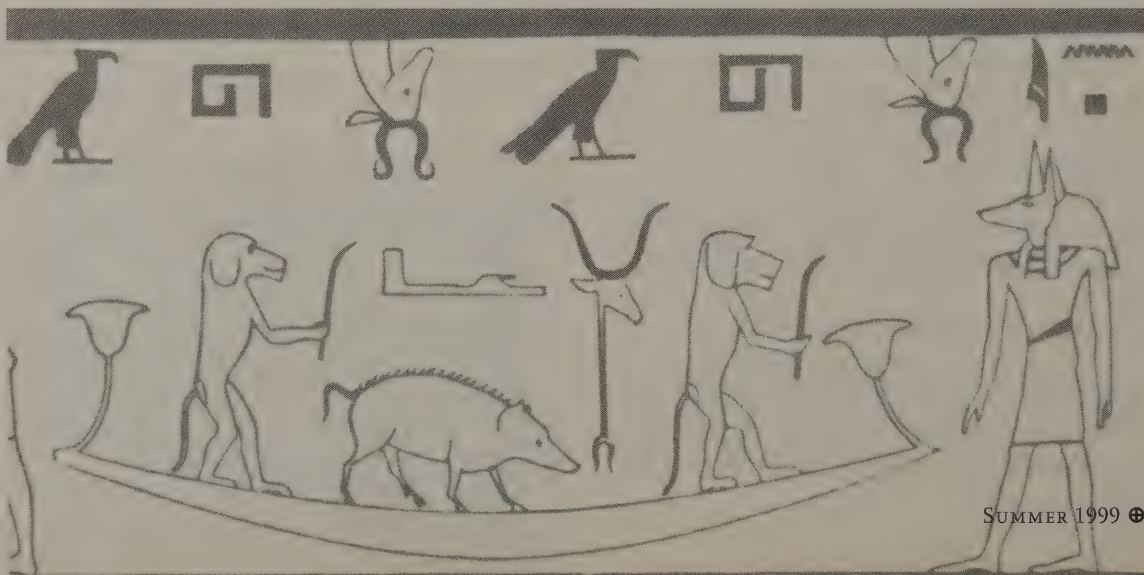
by stressing that it is one of "the three whites," white being a positive color to Hindus. One of the other whites is milk (cow's milk is indeed pure to Hindus), but unfortunately, the third is the egg, which, as we shall see, is unclean. Whatever balance of feelings the appeal may have created, it did not overcome the basic impurity of pork. Whiteness was insufficient to offset the excrement-eating habits of an animal associated with untouchables.

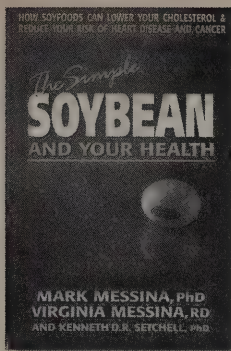
“In some cases, prejudice against horseflesh sprang from the reaction of a world religion, such as Christianity, to the sacrifice and eating of horses in pagan religious rites. In others it may derive from the animal's high status and its supposed holy qualities and association with deities. The effort to reintroduce horseflesh eating in Europe is a rare example of a counterattack against a flesh prejudice, and today one can get horsemeat in many parts of Europe.

“The traditional pattern has been that women side with the forces resisting change. Among the Yukaghir of Siberia, for example, contact with the Yakut led some people to eat new flesh foods, including beef and horseflesh. Yukaghir women, however, displayed an aversion to this "alien food," and when horsemeat was cooking, some Yukaghir women would even leave the house because they could not stand the smell.

“I would note a curious unwillingness on the part of Westerners to accept the rejection of pork by Moslems, Jews, and Hindus, and an eagerness to get them to eat pork. One reads, for example, of a failed attempt to encourage the use of imported pork in India

Right: Soul of a deceased man in the form of a pig, after the deceased has been judged and found wanting by Osiris, judge of the dead. The pig, an unclean animal, is guarded by two baboons, symbolic of Thoth, who records the deeds of dead persons. At right, Anubis, lord of the dead.





## THE SIMPLE SOYBEAN AND YOUR HEALTH

How Soyfoods Can Lower Your Cholesterol & Reduce Your Risk of Heart Disease and Cancer

Mark Messina, Virginia Messina, and Kenneth D.R. Setchell. 1994; 260 pp. \$12.95. Avery Publishing Group.

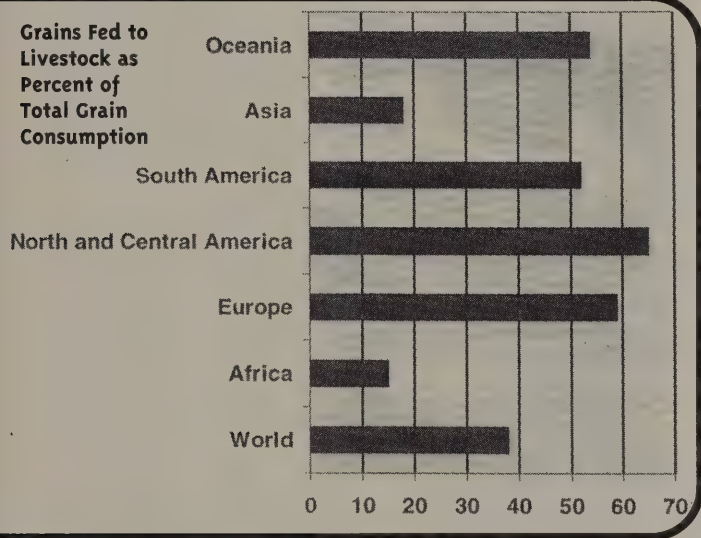
Mark Messina has established himself as the expert on soyfoods and health, beginning with his work on soybeans and cancer at the National Cancer Institute. *The Simple Soybean's* enthusiasm for the bean's efficacy is much less restrained than Messina's technical writings, while still cautioning against treating soy as a miracle cure-all. The book includes recipes, menus, and a twelve-month plan for an "easy does it" transition to an optimal diet. —MKS

“Americans need to make fundamental changes in the way they eat that go well beyond pouring a little soymilk over morning breakfast cereal. We need to make a dramatic shift toward a plant-based diet, trading in meat, eggs, and high-fat dairy products for grains, beans, fruit, and vegetables. Adding soyfoods to this new style of eating can help bring even further health benefits.... We are certainly not recommending a “soy diet.” What we are suggesting is the consumption of one serving of

soyfoods a day. There is nothing wrong with eating more soy than this, but no one food should form the center of the diet.

“In two studies, people with average cholesterol levels consumed diets that included either milk protein or soy protein. In one study, the subjects consumed a low-cholesterol diet. In the other, they ate 500 milligrams of cholesterol a day, which is just a little bit more than the amount of cholesterol consumed by the average American. On the low-cholesterol diet, it did not seem to matter whether the subjects consumed soy or milk protein. But on the high-cholesterol diet, soy protein significantly decreased LDL-cholesterol levels. In addition, HDL cholesterol rose about 15 percent...combined with a decrease in LDL [this] strikes a serious blow against heart disease.

“Soybeans are extremely rich in a unique group of phytoestrogens called *isoflavones*. The isoflavones in soybeans best explain why soyfoods may lower the risk of cancer. Estrogen is needed for normal physiological functions, but high levels of estrogen have been linked to increased risks of breast cancer and other hormone-related cancers....So in the case of women, who normally produce a lot of estrogen, the isoflavones...act as *antiestrogens*.



BILL VORLEY, INSTITUTE FOR AGRICULTURE AND TRADE POLICY

## Factory Animal Access

### PRISONED CHICKENS POISONED EGGS

Karen Davis. 1996; 175 pp. \$12.95. Book Publishing Co.

A look at the chicken industry—especially the short, desperate lives of factory-farm chickens—calculated to make you want to enlist in the finger-lickin’ liberation army.

### MAD COWBOY

Howard F. Lyman. 1998; 223 pp. \$23. Scribner.

Howard Lyman’s blasts at the cattle industry on the *Oprah Winfrey Show* prompted a celebrated—and unsuccessful—cattleman’s suit alleging “food disparagement.” A fourth-generation cattle rancher, Lyman reveals what he learned about beef and health that drove him out of the business and made him a vegetarian crusader. Pass the tofu.

## More Soy and Health

With thanks to Joy Kettler and Daphne Derven

### THE SOY REVOLUTION

Stephen Holt. 1998; 214 pp. \$19.95. M. Evans and Company, Inc.

A most popular paean to soy as the “food of the next millennium,” for improving your body’s chances against a wide array of ailments. In addition to soyfoods, Holt recommends judicious use of soy dietary supplements. No recipes.

### THE HOT FLASH COOKBOOK

Cathy Luchetti. 1997; 272 pp. \$16.95. Chronicle Books.

Discusses not just soy, but a range of fruits, grains, herbs, meat, and vegetables containing natural estrogen that can help women through menopause. Mostly recipes.

### THE HEALING POWER OF SOY

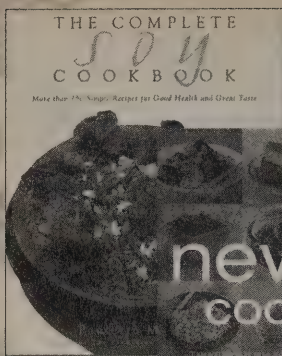
Carol Ann Rinzler. 1998; 194 pp. \$15.00. Prima Publishing.

Includes a good history and complete nutritional analysis of soy and protein, with some recipes and extensive access.

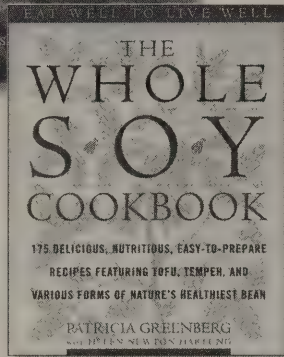
The world relies on five sources of high-quality protein: beef, poultry, pork, fish, and soybeans. As rangelands and the oceans approached their limits, beef and fish producers needed grains and oilseeds. Feedlots and aquaculture blossomed. But then cows and fish competed with chickens and pigs.

Feedlot cattle need seven pounds of feed to make one pound of beef. Hogs need four pounds of feed. Poultry require just over two pounds. Fish require just under two pounds. Fish and chickens win, and they will get the promo.

Soybeans win no matter which meat is sold, because soy is part of every feed ration, and small amounts can lead to great weight gains. Soybean production has jumped ninefold, from 17 million tons (1952) to 155 million tons (1998). [Based on material in *Vital Signs*, Lester Brown, Michael Renner, and Brian Hahweil. Worldwatch Institute, 1999.]



the  
new soy  
cookbook



**THE COMPLETE SOY COOKBOOK**  
Paulette Mitchell. 1998; 270 pp. \$17.95.  
Macmillan.

**THE NEW SOY COOKBOOK**  
Lorna Sass. 1998; 120 pp. \$17.95.  
Chronicle Books.

**THE WHOLE SOY COOKBOOK**  
Patricia Greenberg with Helen Newton  
Hartung. 1998; 221 pp. \$16.  
Three Rivers Press.

Nutritionally, soybeans are dynamite—high in protein and full of fiber, vitamins, and minerals. Many stores now carry *fresh green soybeans*, a delicious snack, though quite perishable (in some instances, they will be in the freezer section). *Dried soybeans* need soaking and long cooking; some connoisseurs feel that black soybeans have the most flavor. Cooked, ground soybeans can be pressed to create “milk” which contains more protein than the bovine version, and is perfect for those who cannot (or choose not to) consume cows’ milk. *Soy beverage*, sometimes sold in flavors, is called for in many recipes. It has a natural sweetness and can have all sorts of flavor nuances, some of which are unattractive; I strongly recommend tasting before cooking.

Widely various sauces are made from fermented soybeans. *Shoyu* includes wheat; *tamari* (my favorite) is made only from soybeans as part of the miso process; *teriyaki* has other stuff like sugar. *Miso*, made by fermenting and aging salted soybean pastes, is a flavorful way of getting protein and carbohydrates in addition to vitamins and minerals. In Japan, it’s commonly served as a breakfast soup. Some brands are made with rice or barley, and the amount of aging varies, so once again tasting is important.

*Tofu*, the cheese of the soy world, is made by curdling soy milk. Lately, more types are widely available, sold mainly by firmness, but the tofu will act differently depending upon what you do to it. I like to keep it in the freezer. It is high in protein and low in fat, but it’s basically a sponge with little flavor of its own. Freezing it forces out some of its water; I find that it then soaks up more flavor. Of course, you can use it directly from the refrigerator, but watch the expiration date and always rinse and drain. Again, I really recommend tasting. My favorite tofu is “House Premium Organic Tofu” [House Foods America Corporation, 7351 Orangewood Avenue, Garden Grove, CA 92841]. *Tempeh*, a cultured soybean cake originally from Indonesia, is also a good source of fiber, calcium, and protein. While perhaps not as familiar as tofu, it is a wonderful, somewhat less perishable, and nicely chewy form of soy. Finally come products designed specifically to be the protein in a dish: *textured soy protein*, *soy protein concentrate*, and various forms like *sausages* and *veggie burgers*.

The growing interest in soy has yielded many, many cookbooks about soy or including soy. I recommend these three as having interesting and trustworthy recipes, using ingredients that most of us already have in the kitchen most of the time. All include useful and clear information on utilizing tofu in most of its forms.

I’d buy all three, but I get out of control in the kitchen. If I had to choose one for most people, I’d choose *The Complete Soy Cookbook*. It offers the widest range of recipes, with very clear explanations. Dijon potato salad was good but bland; I’d add some red pepper flakes. The Italian tempeh, vegetable, and rice skillet was fun and easy, but ditto on the red pepper flakes. The spinach-and-leek ring had my fellow tasters licking their plates, as did the gingered banana parfaits.

*The New Soy Cookbook* uses the most restricted range of soy products, but its recipes are the most adventuresome in these three books. I particularly liked the red lentil soup; shiitake miso and barley soup; tempeh braised in coconut milk with lemongrass; curried tofu with spinach and tomatoes; sage-scented cornmeal scones; and pineapple coconut rice pudding. These recipes were easy to prepare and had wonderful nuances of flavor and texture.

*The Whole Soy Cookbook* includes much more extensive nutritional information than the other two, with nutritional breakdowns for each recipe. It also has access to mail-order sources of soy and soy products. I tried a lot of the recipes. I found them very easy to prepare, and more oriented toward the total diet. All of them worked, but the real stand-outs were crispy tofu with plum and ginger sauce; cucumber raita; warm salad of roasted

portobello mushrooms with creamy garlic dressing; and Indonesian tempeh rice salad. Braised red cabbage with the soy Hungarian goulash was stellar, and the orange-walnut biscotti had great flavor and texture.  
—Daphne Derven

“ Curried Tofu with Spinach and Tomatoes

- Serves 3
- 1-pound block extra-firm or firm tofu, frozen, defrosted, and drained
  - 1 tablespoon peanut oil or ghee (clarified butter)
  - 1 cup coarsely chopped onions
  - 1 cup water
  - 1/4 cup mild curry paste
  - 3 tablespoons unsweetened grated dried coconut
  - 3 large plum tomatoes, cored and cut into eighths
  - 3/4 pound spinach, trimmed, coarsely chopped, and thoroughly washed
  - Salt, to taste
  - 1/3 cup to 1/2 cup chopped cilantro (optional)

1. Set the block of defrosted tofu between 2 plates and, pressing the plates firmly together, tip them over the sink as the tofu releases excess water. Release the pressure slightly, then press the plates firmly together again 4 or 5 more times, or until no more water is expressed. With a serrated knife, slice the tofu into 1-inch cubes. Set aside.

2. Heat the oil in a large, heavy saucepan or wok over medium-high heat. Sauté the onions, stirring frequently, until lightly browned, about 3 minutes. Add the water and blend in the curry paste and coconut. Stir in the reserved tofu, taking care to coat the tofu thoroughly with the curry sauce. Stir in the tomatoes.

3. Cover and cook over medium heat, stirring occasionally, until the tomatoes are soft, about 5 minutes. If the mixture seems quite dry, stir in 1/4 cup water at this point. Add the spinach. (If your pot isn’t big enough, you may need to add half, cover, and let it wilt before adding the remainder.) Cover and continue cooking until the spinach is tender, 2 to 3 minutes. Add salt and the cilantro, if you like. —THE NEW SOY COOKBOOK



# CONSUMERS



In this issue of *Whole Earth*, we've used jargon like "feedback" to cultivate the notion that choosing between buying your next tofu and your next hamburger is a soulful mental act. Your mind's final selection, your choice or free will, tells the Earth what you want for it; tells the people involved along the food chain what you think of what they are doing. Each shopping choice is highly opinionated.

Three organizational "feedback mechanisms" star in helping consumers form mental images of what to buy: religion, education, and government.

For instance, religious folks, tied to personal and communal rules and values, have begun to deeply question transgenic foods. If an animal gene is spliced into a vegetable, does this infringe on vegetarian precepts? Could a spliced-in shellfish gene violate kosher sanctions? Religious influence can move fast and cheaply once adherents have decided what is right.

Education takes time and money. Public schools and many colleges avoid all sensitive

issues. The US government has been remiss in providing balanced information. Typically, journalists, book authors, and nongovernment groups (NGOs) have sung the glories of soy and health, and prophesied the potential doom of a gene-spliced world. A free press and the free flow of information are essential to any food system aiming toward sustainability; the speed of education on these issues is crucial. Warning: transgenics' impacts on crops could take longer to reverse than the time needed for the breakdown of radioactive materials.

Education, religion, and government can peacefully reorganize a food system and marketing pattern by consensus. All other feedback options require hurting "upstream" pocketbooks by actions like direct political boycotts and Greenpeace-like theater—the populist, flamboyant "Franken-food" style of changing the rules and getting the word out. It's a style that's needed when the major institutions live in denial. —PW

## A BRIEF MORAL HISTORY OF HUMANS MANIPULATING GENOMES

**c. 10,000 B.C.E. to 1900:** *To select a desired crop plant, a farmer waited until the plants were full adults, mature with seed. The farmers then chose seeds from favorite plants and hoped they would breed true with other selected seeds. New crop varieties took many decades or centuries to evolve.*

**After about 1900,** *breeders didn't wait for seeds. They crossed plants at the flower stage by emasculating (cutting the male sex parts off) undesirable plants and forcing sperm (in pollen capsules) onto desirable females. Sex tampering raised no ethical problems. Many of these hybrids escaped the farm and now cover millions of square miles of the planet. Until recently, bio-invasives were not considered a problem.*

**1950s:** *To increase variability, researchers started inducing mutations in plants with chemicals and radiation that somewhat paralleled natural mutators such as UV light. Still, all exposed seeds had to grow up to full adulthood for researchers to see if they were the "right" plants. Then, the choice mutagenic plants had to be backcrossed with "elite" varieties to become useful crops. A series of new statistical techniques and green-*

*houses sped up the process. New crop varieties evolved within a decade. Escapees, mutagenic alteration of plants, and human safety were not yet political or social ethical issues.*

**1986:** *Genes became interchangeable among all species through gene splicing and even gene "invention." It was no longer necessary to wait for plants to grow up to gauge how they worked. "Gene markers" distinguished plants at the embryo stage or in asexual cell masses. In fact, researchers didn't need seeds; they utilized plant-tissue culture, which skipped the seed and growing stages and allowed the regeneration of genetically altered plant tissue into adult plants in a lab. New varieties were no longer randomly generated, but planned. They evolved in five to seven years.*

**1994:** *The Flavr-Savr tomato went to market. Spliced genes, "junk" DNA that comes along with the introduced genes, and the marker genes that are attached to the new genes all became focuses for ethical and political inquiry into the implications of gene manipulation for human health, agriculture, and ecological well-being.*

### DEFINITIONS FOR STUFF NOW INSIDE YOUR BODY


**GENOMICS:** the science and technology of identifying genes and their functions. Its goal is to insert more genes, redraw the genetic blueprint, and redirect metabolic pathways.

**TRANSGENIC:** modified by gene-splicing. AKA genetically modified (GM) or genetically engineered (GE).

ILLUSTRATION FROM *PLANTS FROM TEST TUBES*, (SEE REVIEW, PAGE 110).

# POOR MONSANTO

CORPORATE DEMONIZING WILL NOT TRANSFORM INDUSTRIAL AGRICULTURE, BUT LESS HUBRIS AND MORE OPENNESS TO ORGANIC AGRICULTURE MIGHT HELP *by Donella H. Meadows*



Last fall at a prestigious environmental forum in San Francisco the small group of terrorists who throw gooey pies in the faces of offensive corporate executives pulled off a direct hit on Monsanto's CEO, Bob Shapiro. The pie was made of tofu, in protest against the company's genetically engineered soybeans.

In India, there's an uprising going on under the name "Operation Cremate Monsanto." People are torching the company's test plots of genetically modified cotton.

In England, protesters pull up plots of transgenic potatoes and corn. In other EU countries and Japan, there are energetic political movements to ban gene-spliced foods altogether.

In Canada, Monsanto sent Pinkerton detectives out to do DNA tests on canola crops, and maintained a hotline so farmers could turn in neighbors for keeping and replanting gene-spliced seed, rather than buying it each year from the company as their contracts require. Outraged farmers claimed that Monsanto's patented genes appeared in their fields not through replanting, but through pollen from neighboring fields.

American consumers, Monsanto claims, have accepted gene-spliced foods—but the company must know better, because it fights aggressively against any labeling for gene-spliced products. In a recent *Time* magazine poll, 81 percent of respondents said transgenic foods should be labeled; 58 percent said they wouldn't buy them.

The transgenic revolution has engulfed agriculture with unbelievable speed. As of 1996, virtually no transgenic crops had been planted. In 1997 they covered 19 million acres in the United States; in 1998, 50 million acres. In that year, more than half the world's soybeans and one-third of the corn contained genes pasted in from other forms of life.

Isn't that great? say Monsanto scientists, several of whom I know and like. Pesticide-containing potatoes can be grown with fewer harmful sprays. (But not with no sprays, because, so far, the spliced potato can only fend off one of its many pests.)

Soybeans engineered to resist Monsanto's herbicide, Roundup, can grow in uncultivated fields, the weeds controlled by the herbicide. There's no need to turn the soil, so there's less tractor fuel used and less erosion.

The Monsanto folks honestly see themselves as helping to feed the world. "Food. Health. Hope." is their new company motto. They have taken a public stand for environmental sustainability. They're working hard to cut their toxic emissions and fossil-fuel consumption. Many of them are sincere; this is more than a public-relations ploy. So it's especially maddening to those of us who also want the world fed and the environment sustained to see this company get pie in its face, literally and figuratively, again and again. And to deserve it.

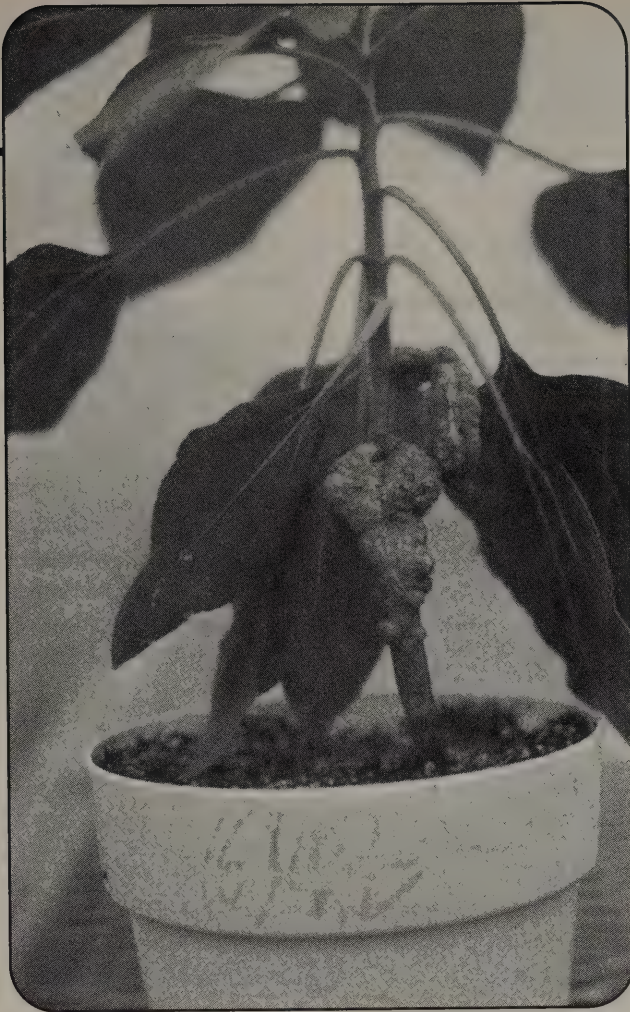
Like every big organization, Monsanto's right hand doesn't always know what its left hand is doing. I'm told that corporate headquarters found out about the spying in the canola fields of Canada only when the story hit the press, and has now put a stop to it.

Monsanto has other problems. One is a culture of power, common throughout the corporate world—a habit of imposing the company's will on others and on nature, a habit of not listening to people and/or not respecting them. Of assuming, for instance, that if people don't want to eat genetically engineered food, they must be ignorant. Assuming that a few million bucks' worth of reassuring ads will bring them around.

Other problems are particular to Monsanto: a defensiveness (that derives, I suppose, from a nasty environmental history), and a desperation, because CEO Bob Shapiro has bet the company on genetic engineering, and the bet is a long way from paying off.

Narrow expertise. A size that makes coordination and thoroughgoing integrity impossible. Power wielded with arrogance. Defensiveness edging toward desperation. I'm not sure whether any human organization should "own" the codes for life, manipulate them at will, and spread the





Left: A natural form of genetic engineering: production of a crown gall tumor on a sunflower (*Helianthus*) plant by *Agrobacterium tumefaciens*. From *Plants from Test Tubes* (see review, page 110).

efficient and productive life for everyone....People must...think constantly in terms of making money. They must regard everything around them—the land, its natural resources, their own labor—as potential commodities that might fetch a profit in the market. They must demand the right to produce, buy, and sell those commodities without outside regulation or interference.

All agriculture involves forcing human will onto natural ecosystems. But organic agriculture is at least about doing so from a position of respect for what nature does and how it does it. It's about learning from nature, dancing in harmony with it; using natural forces with gratitude and for generous purposes, to further the health of people and ecosystems. At least so far, organic growing is based on interaction, caution, humility. [But see "Organic Incorporated," on the globalization of organic ag, in *Whole Earth* No. 92—Ed.]

Chemical agriculture, monoculture, big-time farming, global markets, money calculated in millions and billions, all that stuff looks like hubris, greed, way too much power administered with way too much self-confidence despite a historic trail of grievous damage to people and to nature. Genetic engineering looks like more of the same, ratcheted up one more step in power, and therefore in danger.

The funny thing is, the people who do it, in my experience, aren't greedy, aren't reckless, aren't arrogant. When I asked my Monsanto friend whether, in engineering his potato [see next page], he felt like he was playing God, he smiled—he's a gentle person—and said, no, it just felt like he was going to the lab and working on challenging scientific puzzles. I believe him; that's his passion, a passion I once shared, and one that can indeed serve generous purposes, furthering the health of people and ecosystems.

But as we have learned over and over (as science should have learned from the atomic bomb, if nothing else), one has to be aware of the purposes, overt and latent, of the larger systems within which one works. Monsanto isn't uniquely bad, as its critics claim it to be. The system of which it's a part—industrialism, capitalism—isn't uniquely bad either. (Consider, as we all said in the Cold War days, the alternative.) But the industrial/corporate system is, we all know, reckless, proud, driven by a never-satisfied need for more, more, more, and apparently unable to learn from its historic trail of grievous damage to people and to nature.

*continued on page 108*

results throughout nature on a massive scale. But if one should, I wouldn't choose an organization with Monsanto's characteristics for the role.

## GUT-LEVEL ETHICS

My most fundamental reason for viewing Monsanto's corporate direction with concern is ethical. It is one I can hardly articulate, because it's the philosophical, gut-level instinct that made me an organic grower in the first place. It is so hard to talk about worldviews. It's like trying to see the lenses of one's own eyes, trying to bite one's own teeth, trying to explain one's language without using that language. It has to do with what is proper and improper for people to do to other living things.

But here's the best I can do in expressing where I'm coming from. I love science and rationality but I hate the basic premises of the industrial revolution. Donald Worster, in his 1988 book, *The Ends of the Earth*, describes those premises this way:

The capitalists...promised that, through the technological domination of the earth, they could deliver a more fair, rational,

# ARE BIOENGINEERED POTATOES ORGANIC?

“Why won’t you grow my potatoes?” a puzzled Monsanto scientist asked me. His bioengineered potatoes carry a gene spliced in from a bacterium called *Bacillus thuringiensis* (*Bt*), which parasitizes a number of insect larvae. One strain of *Bt* is particularly fond of the relentless Colorado potato beetle.

In nature, *Bt* lurks in the soil and gets splashed up onto, say, potato leaves. If a beetle grub ingests *Bt* while chomping on a leaf, the bacterium multiplies in its gut. Within hours, thousands of *Bt* offspring have produced a specific toxin that kills the grub. Then the bacteria, having feasted on the grub’s dissolved innards, pour out of its body. Not pretty, just nature at work. A potato beetle is *Bt*’s way of making more *Bt*.

Maybe once or twice a growing season, organic farmers like me spray *Bt* to control potato beetles if grubs get out of hand—which they don’t always do, because we never plant acres and acres of continuous potatoes. We rotate crops to keep these pests from building up. We don’t need much *Bt*, especially since it’s alive; once we’ve applied it, it reproduces itself for a while, until it can’t find any more grubs.

Now comes Monsanto, snipping out the gene that tells *Bt* how to make that specific beetle toxin and sticking that gene into the Russet Burbank potato, the most widely grown potato in the world, the one that supplies all the fast-food fries. The spliced potato, trademarked NewLeaf, makes the toxin constantly in small amounts in every one of its cells.

My friend at Monsanto honestly sees this potato as a wonderful advance, saving organic farmers the trouble of spraying *Bt* and conventional farmers the danger of spraying beetle-cides. He can’t

understand why I wouldn’t welcome it with praise and rejoicing and use it on my organic farm.

Sigh. The reasons seem so obvious to me. In order of increasing seriousness they are:

1. **FOOD SAFETY.** When I spray *Bt* on my potatoes, its poison gets made only within the guts of beetle grubs. If it gets out onto the potato leaves when the grubs die and dissolve, it quickly washes away. The NewLeaf potato bears the toxin in every cell, even in the tubers we eat. We can’t wash it out. The entire plant is a pesticide.

2. **COMPANY GOOFS.** Monsanto revealed recently (and quietly) that huge quantities of another of its biotech products, a gene-spliced canola seed, had been mistakenly sold with the *wrong gene* in it, one that had not been tested or licensed. The problem here is not that companies make mistakes—of course they do—and not that the unlicensed canola gene was necessarily dangerous. The problem is that genetic engineering, like nuclear power, is not an arena where we want mistakes to be made.

3. **PEST RESISTANCE.** Whenever a pest comes in contact with a poison, it’s possible that a few members of its fast-breeding horde can survive, because they bear some genetic trait that allows them to detoxify, avoid, or defuse the poison. Those resistant pests are the ones that live to produce the next generation. The Colorado potato beetle is second only to the green peach aphid in its acquired resistance to hard-core pesticides. But it has never developed resistance to *Bt*. Organic farmers haven’t blown *Bt*’s cover, because they use it spottily and on the surface of the leaves.

But fields of potatoes carrying *Bt* toxin inside every leaf during the whole growing season are something new under the sun. I can’t imagine a

more perfect setup to select for resistance. The Diamondback moth, for instance, is already resistant to *Bt*’s gut assaults. Experts, including Monsanto’s own, estimate it will take five to ten years before the NewLeaf potato will destroy both its own effectiveness and that of a good organic-crop-protection tool as well.

You might wonder why Monsanto would develop a product that is almost certain to render itself impotent. I wondered too, until I came across this quote from a company spokesman: “Resistance is unlikely to happen within five years, and within that time frame we’ll offer new technology that will further reduce the likelihood of resistance.” Don’t worry. We’ll destroy nature’s tool for beetle control, but you can always come to us for a new one. It will even be a better one. Trust us.

4. **FURTHER CONSEQUENCES IN NATURE.** In 1996, Danish scientists watched a gene for herbicide resistance in canola jump the farm fence to enter one of canola’s wild relatives. Will the ability to make beetle toxin suddenly show up in, say, wild nightshade, which is a relative of the potato? Or could resistant beetles, no longer held in check by *Bt*, become more effective pests to other members of the nightshade family (which includes tomatoes, peppers, and eggplants)?

Another possibility is that cut-and-paste genes will travel via the very viruses that the gene splicers use to do their work. Viruses are routinely used as carriers to insert genes into the target cell of the potato or sheep or whatever. Wild viruses may—no one knows—be more likely to pick up a transplanted gene than a native gene. If a cut-and-paste gene has been engineered to fight a virus, that virus (if the gene fails to destroy it) or another one could acquire and spread the gene.

And then there's the already demonstrated food-chain effect. Aphids in Scotland ate *Bt* potatoes; when the "good guys"—lacewings and ladybugs—ate the aphids, they died from gut upset.

Once a gene has been loosed, it's way beyond our recall or can only be recalled through a massively expensive mobilization of people and resources (think of the small-pox virus).

5. "JUNK" DNA. Genetic technology sounds like a precise science, but in fact it's primitive and messy. It doesn't matter whether plants are sexually crossed; or seeds are radiated or chemically induced to mutate; or genes are inserted into cell tissue; or chromosomes are shot with new genes by a micro-gun. No one is quite sure where the genes will go, how they will glom on to the chromosome, what sequences of "junk" DNA (meaning DNA that scientists can't see any use for) may come along with the desirable genes, or how the "junk" DNA may influence the cell. What outcomes might there be from this fairly random and uncontrolled process? No one—no scientist, no regulator, no activist hyping these threats, no gene-splicer making light of them—really has the slightest idea.

6. BREAKING THE SPECIES BARRIER. Nature doesn't normally cut and paste single genes from bacteria to potatoes, toads to petunias, people to sheep. Though the DNA of a sunflower is essentially made of the same stuff as that of a chimpanzee, numerous physical, behavioral, and biological barriers prevent their specific genes from creeping, swimming, or leaping into each other's DNA. Contrary to the claims of biotech companies and consistent with the intuition of everyone else, the various critters within which nature packages various lengths and combinations of DNA do have some boundaries, which presumably have some evolutionary value. Moving single genes from any species to any other is not just a

small extension of the age-old human practice of breeding roses or cattle. It's a whole new twist.

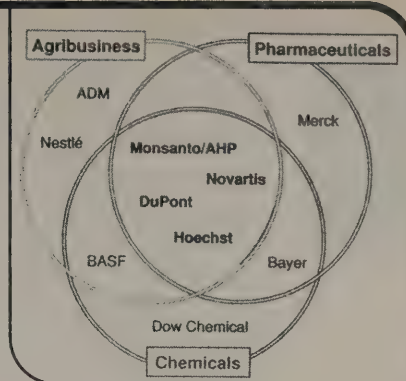
7. THE PACE AND THE SELECTION MECHANISM. For several billion years evolution has proceeded in fits and starts, but generally slowly. In the hands of biotechnicians, farmers, and breeders, the rate of evolution speeds up enormously, and species are selected by their ability to fit not into nature, but into markets.

From a systems point of view these are two of the most profound interventions one can make in a system. Speeding up the rate of change relative to the rate of corrective feedback means a system can't manage itself, nor can it be managed. If there are terrible consequences from even one of our imaginative gene-tinkering, we are unlikely to find out about it in time to cleanse nature of our mistake. We are not helping this problem by conducting our genetic-manipulation experiments in corporate secrecy, overseen by underfunded and politically compromised regulatory agencies, nor by putting these corporations under such stress from stock-market expectations that they must roll out their experiments by the millions of acres over just a few years.

Even more profound than destabilizing a system by changing it faster than its feedback mechanisms can function is derailing it by setting an entirely different goal around which those feedback mechanisms can "true." For billions of years nature selected species survival according to the ability to thrive and reproduce in the physical environment and in the presence of all neighboring species. For 10,000 years, farmers have selected for what can be manip-

ulated by people in order to feed people. Now the criterion is what can be patented and sold in huge, global-market quantities.

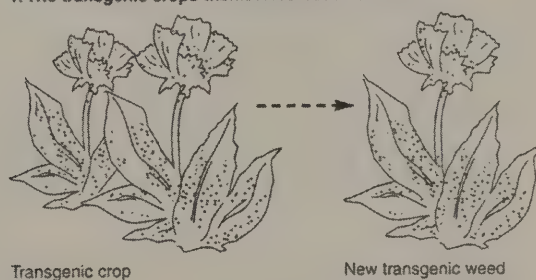
Biotech companies love to talk about feeding the world, but their products must pay off in a market that measures dollar demand, not human need. By far the greatest effort has gone into the potato that makes fast-food fries, not the yam grown by folks with no cash. The corn that feeds America's pigs and chickens, not the dryland millet that feeds Africa's children. The diseases of the rich, not the plagues of the poor. There is some public funding and corporate charity directed toward gene manipulations that might conceivably help feed the world, but the vast majority of minds and bucks are working on caffeine-free coffee beans, designer tomatoes, seedless watermelons. They always will, if the market is the guide. —DHM



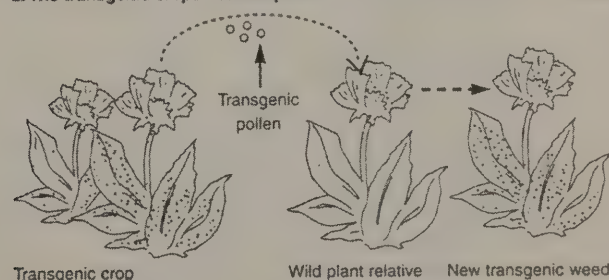
The new "life sciences-industrial complex," formed by fusing pharmaceutical, chemical, and ag-business companies.

Risks of transgenic crops. From *The Ecological Risks of Engineered Crops* (see review, page 109).

1. The transgenic crops themselves become weeds.



2. The transgenic crops transfer pollen to wild relatives that become weeds.



## STOP ALL GENETIC ENGINEERING?

"I guess you're in favor of pesticides," concluded one of the Monsanto PR people, after a conversation with me.

"I guess you don't care if people starve," said a biologist I deeply respect, an environmental hero, who is fervently in favor of genetic engineering. He constantly accuses me of wanting to go back to the low-yield, tiny-farm agriculture of a century ago.

I tell the genetic-engineering proponents that there are alternatives to industrial agriculture, with its monocultures generating the hordes of pests that necessitate the pesticides. I show them data from organic farms getting yields as good as their chemical-doused neighbors. I point out that there is already enough food to feed the world, that hunger could be ended by sharing that food, and/or by sharing technologies that can raise lots of food without poisoning the earth and without invading the genomes that nature has evolved. I don't think this information even reaches their auditory nerves, much less their brains.

That kind of extreme failure even to hear an argument, much less process it, alerts me that this is not a rational discussion at all, not on either side, mine either. This is a paradigm gap, a world-view argument, a disagreement about morals and values and the deepest, most fundamental assumptions about how the world works.

Some people of my worldview would ban genetic engineering altogether as an act of hubris as extreme and dangerous as the development of the atomic bomb. I wouldn't go that far. Heck, I was trained as a molecular biologist. I think this is cool science, which could lead us to understand so much; to have, within my worldview, even deeper respect for the biosphere in which, somehow, staggeringly, all life evolved—including (and not ending with) one critter that actually has the ability to begin to understand the very genetic, evolutionary processes that produced its own species.

I wouldn't stop genomic and tissue-culture science. I would probably, with great care, go along with some commercial applications of the science. I can't see any problem, for example, with the use of gene-spliced bacteria in vats, turning out inexpensive insulin for diabetics—though I'd want to know how the spent vats are emptied into nature. Some day I would hope gene-repair therapies could ease a lot of human suffering. I would hope we would never use this technology to design our kids or our crops.

But I shouldn't be the one to choose; that's my main point. Nor should poor Monsanto. Nor should the frightened Monsanto-demonizers.

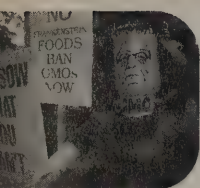
Gene-manipulation decisions are more than present-day life or death; they are long-term-future life or death—they determine the course of evolution. The decisions (including "ownership" of the genes and/or technologies) should be firmly in the hands of the most knowledgeable *and* ethical people we can find. For that role I nominate the public, the whole public, and nothing but the public.

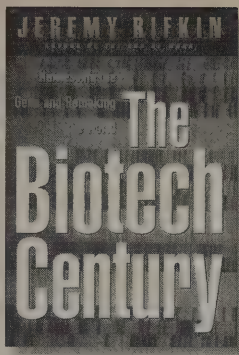
Should you think the public an inadequate safeguard, let me share some genetic-technology guidelines recently formulated by a group selected to represent "average" Australian citizens:

1. Regulation should be developed by a Gene Technology Organization (GTO), a statutory authority with well-balanced representation and commercially significant sanctions. Its deliberations should be public.
2. No new commercial releases or unlabeled importation of genetically modified foods (either whole or processed) should be permitted until a) the GTO is in place, b) a clear Australian position on the Biosafety Protocol has been established, and c) an all-encompassing labeling system has been introduced.
3. Decisions by any regulatory body should take into account more than just science. The overriding principles when drafting legislation should be the environment and the physical, mental, and social health of individuals.
4. Australia should support a regulated and precautionary approach to trade in relation to GMOs [Genetically Modified Organisms].
5. Environment and Health Departments should develop strategies to prepare for any health or environmental problems from GMOs—for example, an adverse-reactions register.
6. Independent assessment of the viability and impacts of choosing non-GMO options should be carried out, and this information communicated to the public.
7. Ethicists should be included in all GMO policy-making.
8. There should be an inquiry by the ACCC (Consumer and Competition Commission) into multinational monopolies in the food industry.
9. Government should embrace a commitment to bring together all stakeholders to reach agreement on mutually beneficial solutions, rather than the way different interests now compete to lobby government.

I'd suggest even stronger safeguards, at least until my own government finds its way back from plutocracy to democracy, but I consider that Australian draft a better start than anything I've heard from Monsanto, or from anyone else. ❀

Donella Meadows is a contributing editor to *Whole Earth*. We thank Paul Hawken for the Australian citizens' guidelines.





## THE BIOTECH CENTURY Harnessing the Gene and Remaking the World

Jeremy Rifkin. 1998; 271 pp. \$24.95.  
Jeremy P. Tarcher/Putnam.

Rifkin has been by far the best translator and synthesist of the labyrinthine issues surrounding genetic engineering since his presciently entitled book, *Who Should Play God?* [out of print]. Because of his early work and that of many others, it is becoming painfully obvious to multinational corporations such as Monsanto that they may not get that coveted role.

While the public (particularly in Europe) continues to focus on food issues and the attempt of a handful of powerful corporations to attain global dominance in genetically engineered seeds, a plethora of other applications go largely unnoticed—transgenic

animals, among the more startling and disturbing.

In this book, Rifkin is at his best. A few small scientific errors in some of his past writings allowed corporations to throw the baby out and ignore him. Corporate transgeneticists named anticipated protests to their new “products” the Rifkin Factor, as if there would always be a small cadre of extremists who would try to stop the march of science. They were wrong. Rifkin’s work has bloomed a thousand times over in the protests of citizens, countries, and scientists.

In *The Biotech Century* Rifkin demonstrates the inevitability of the Biology Century, and delineates the forces that will introduce these issues into every facet of our lives. Rifkin shows that the thrust of present Baconian science, rather than merely being an arcane debate, will be equivalent to the strip-mining of nature and world culture. We are out of control, in Kevin Kelly’s words, and no book better chronicles the magnitude or scope of this revolutionary departure from biology. —Paul Hawken

“Life becomes a code to be deciphered....Eliminating structural boundaries and reducing all living entities to information provides the proper degree of desacralization for the bioengineering of life. After all, in order to justify the engineering of living material across bio-

logical boundaries, it is first necessary to challenge the whole idea of the organism as an identifiable, discrete being, with a permanent set of attributes. In the age of biotechnology, separate species with separate names gradually give way to systems of information that can be reprogrammed into an infinite number of biological combinations. It is much easier for the human mind to accept the idea of engineering a system of information than it is to accept the idea of engineering a dog, chimpanzee, or human being. In the coming age it will be much more accurate to describe a living being as a very specific pattern of information unfolding over a period of time.

“The biotech revolution will affect every aspect of our lives. The way we eat; the way we date and marry; the way we have our babies; the way our children are raised and educated; the way we work; the way we engage in politics; the way we express our faith; the way we perceive the world around us and our place in it—all of our individual and shared realities will be touched by the new technologies of the Biotech Century. Surely, these very personal technologies deserve to be widely discussed and debated by the public at large before they become part of our daily lives.

## THE ECOLOGICAL RISKS OF ENGINEERED CROPS

Jane Rissler and  
Margaret Mellon.  
1996; 168 pp.  
\$16.95. The MIT  
Press.

It is always  
more difficult to  
assess the risks  
of the unknown

than to tout the promises of the untried. This is by far the clearest and best-written assessment of current risks and knowledge in the field, without a trace of rhetoric or hyperbole.

Margaret Mellon and the Union of Concerned Scientists have led the fight in this country against unregulated introduction of genetically modified seeds into agriculture and the market. In *Ecological Risks*, Mellon and Jane Rissler have produced a calm and utterly reasonable argument for greater regulatory control of

transgenic crops and plants. They do not argue against the introduction of any genetically engineered organisms, only for a scientifically sound way to ensure that released organisms will not cause unanticipated damage to other living organisms, ecosystems, or biological diversity.

With ten thousand babies born worldwide every hour, companies promoting genetically engineered food plants to address hunger are invoking need, threat, and even compassion as their rationale. *Ecological Risks* tries to show that the promise of enhanced food production is undemonstrated, and that the risks posed may actually threaten the food supply. There is reason to believe that transgenic plants, especially if hundreds end up in the natural environment, could serve as “conduits” to native plants; that new viruses could result; that inbred plant toxicity could decimate bird populations and pollinators; or that soil organisms could be detrimentally affected, resulting in loss of soil fertility and health. These are but some of the possibilities, and do not include such effects on human health as hyper-allergenicity. —PH

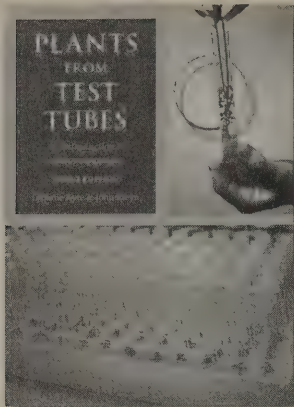
“Diversity in the centers is already disappearing at an alarming rate, because farmers have abandoned landraces in favor of Green Revolution cultivars, and habitats are being destroyed as the human population expands....Indigenous stands of wheat have virtually disappeared from India and Greece since those countries began intensively planting Green Revolution varieties....In Nepal, new varieties are currently grown on some 80 percent of the land—displacing roughly 80 percent of native varieties.

“ [Questions for assessing the potential of transgenic crops to become weeds]

Tier 1....Is the Parent Crop Weedy or Does It Have Close Weedy Relatives in North America?

Tier 2....Does the Transgenic Crop Outperform the Nontransgenic Crop in Population Replacement Experiments?

Tier 3....Is Weediness Increased in Transgenic Crops Exhibiting Enhanced Ecological Performance?



## PLANTS FROM TEST TUBES

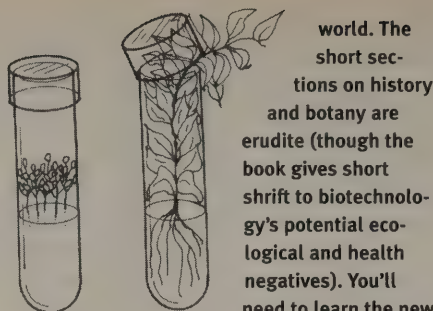
An Introduction to Micropropagation

Lydiane Kyte and John Kleyn. 3rd ed. 1996; 240 pp. Timber Press.

Take a piece of plant (stem, root, leaf, or bud) and place it in a test tube. With care and a few tricks, it grows into a complete plant. No hassle with sex and seeds. You can

grow many identical plants simultaneously. Without tissue culture, biotechnology wouldn't exist; large-scale orchid and marijuana growers would be demolishing their fates, and many million-dollar horticultural industries would shut down.

*Plants from Test Tubes* is your best hands-on, how-to-do-it text (including recipes for propagating fifty-four varieties of ferns, flowering plants, and conifers). It has dense and informative snippets on how "artificial plant cloning" will change the



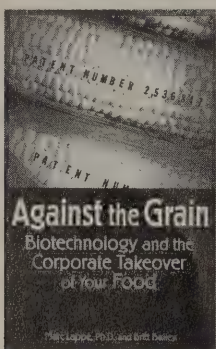
world. The short sections on history and botany are erudite (though the book gives short shrift to biotechnology's potential ecological and health negatives). You'll need to learn the new vocabulary (plasmids, somatic embryogenesis), but this is an easy place to do it, embedded in the practical connections to products and foods that will be ho-hum parts of our children's lives. —PW

“When the cell wall of a cell is dissolved away, the remaining membrane and its contents comprise a protoplast. Because they lack cell walls, protoplasts are more permeable and, as such, are particularly useful for studying the intake of or resistance to toxins, nuclear material, viruses, bacteria, or fungi. Of particular interest to plant breeders is the fact that protoplasts will fuse with other protoplasts not only of the same clone, but

also with those of other species or genera. Before 1960, cell walls had to be removed by physical means (microsurgery)...In England in 1960, E.C. Cocking developed and published a method for removing cell walls by chemical (enzymatic) methods.

“An explant is a piece of a plant from which a culture is started. Theoretically, a single explant can produce an infinite number of plants. This is probably the most illuminating and the most astonishing statement one can make about plant tissue culture. Indeed, if all goes well, one explant will produce thousands of plants. Of course, it is good to have more than one explant in order to achieve the desired number of plants in less time, and also because typically some number of the plants will be lost as a result of contaminants, disinfectants, or other unknown reasons. Normally, however, only a few explants are necessary, and one stock plant is usually sufficient to supply all the steps required.

Tissue-cultured plants develop very small juvenile shoots. Otherwise, most material would never fit into a test tube or jar and would be too unwieldy to micropropagate.



## AGAINST THE GRAIN

Biotechnology and the Corporate Takeover of Your Food

Mark Lappé and Britt Bailey. 1998; 163 pp. \$14.95. Common Courage Press.

This is the best whodunit on agricultural biotech in print, and provides readers

with the conceptual tools to make informed decisions. New research that has come out even since its recent publication reinforces every cautionary point made by the authors. By focusing on two types of herbicide-resistant plants, and crops impregnated by *Bt* (*Bacillus thuringiensis*), they clearly outline the promise, risk, and untruths surrounding genetic intervention, and the circular logic of its proponents.

What we are supposed to believe is that shooting rogue parasitic genes and antibiotic marker genes into seed plasm (organisms) is supposed to bring about an agricultural revolution that will feed the world. *Against the Grain* reveals a policy-and-propaganda machine that has taken the emotional issues of food and hunger and used them to promote a technology that is entirely about money, growth, profits, and power—a tech-

nology that offers not a trace of proof that it is safe, sustainable, or benign. As far as anyone can tell, it doesn't even increase production, the claim to eminence so oft repeated by corporations and their advocate, the USDA. The Clinton/Gore administration has played a major role in promoting American biotechnological hegemony, proving once again that politics can destroy anything, even a good brain. If Gore were still back home in Tennessee, writing, he would be warning us of the dangers, not lapping up contributions from agbiotech. In *Against the Grain*, Lappé and Bailey exemplify the kind of probity and leadership we should be getting from government, but which must now arise from citizens. —PH

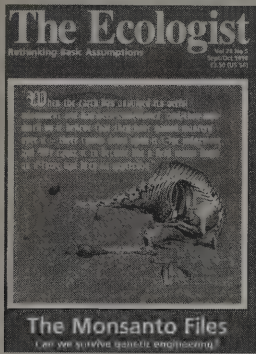
“The principal strategy of many agbiotech companies is to ensure that its [sic] agricultural chemicals match its engineered seeds and any future germ plasm put into its engineered crops. By creating selective demand, companies like Monsanto and DuPont get a “lock” on a future commodity....Not surprising, virtually none of the newly engineered



seeds are designed to meet world demand for increased food supplies. Instead, they are designed to meet existing and projected markets *only* in those countries with an ability to pay for the expensive infrastructure needed to support transgenic crops.

“By genetically tying crops to certain chemicals, the industry is also committing a generation of farmers to a new form of dependency. Transgenic technologies are moving farmers away from integrated pest management and plant protein improvement programs into straight herbicide-driven economies of scale....If successful, this new revolution will commit a generation of farmers to continued use of company-selected herbicides.

## Biotech Access

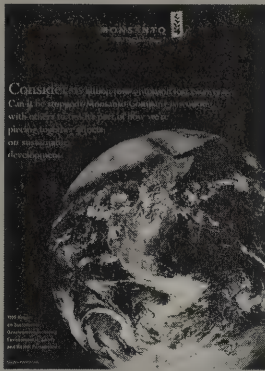


### THE ECOLOGIST—"THE MONSANTO FILES" Volume 28, No. 5, Sept/Oct 1998

Edward Goldsmith and Zac Goldsmith, eds. \$6/issue.  
Subscription: \$35/year (\$54 postpaid) (6 issues).  
Ecosystems Ltd., Cissbury House, Furze View, Five Oaks Road, Slinfold, W. Sussex RH13 7RH, UK.  
+44(0) 1403 786726,  
sgc@magsubs.demon.co.uk

The regular printer refused to print this issue of *The Ecologist* when Monsanto threatened or implied lawsuits. But another printer agreed, and this issue, plus a few words

from the Prince of Wales and a few cases of Mad Cow disease, galvanized England and most of Europe. It's being translated and distributed all over the planet. Read with Monsanto's report for the he said/she said:



### MONSANTO 1997 REPORT ON SUSTAINABLE DEVELOPMENT

Monsanto Company,  
Environmental Public Affairs  
A2SP, 800 North Lindbergh  
Boulevard, St. Louis, MO  
63167. 314/694-5432,  
enviro1@monsanto.com,  
www.monsanto.com.

Sustainable development through Monsanto's eyes.

### THE GENE EXCHANGE

Jane Rissler and Margaret Mellon, eds. Free (2 issues per year by post; monthly-plus, electronically). Postal subscription: UCS Publications, Two Brattle Square, Cambridge, MA 02238. Electronic subscription: genex@ucsusa.org. Downloadable from www.ucsusa.org/publications/.

The lucid, accessible newsletter of the Union of Concerned Scientists, a non-profit alliance of US citizens and leading scientists who militate for responsible public policy in technology-affected environmental issues. Best single source for biotech news. Objectivity is their *raison d'être*.

### NOW OR NEVER: SERIOUS NEW PLANS TO SAVE A NATURAL PEST CONTROL

Jane Rissler and Margaret Mellon, eds. 1998; 150 pp. \$14.95 (\$17.95 postpaid). UCS Publications (see above).

Current plans for managing *Bt*-toxin-resistant insects are not enough. This report recommends manda-



"I'm afraid I'm patenting you"

tory management plans, large and specifically patterned reserves of non-*Bt* crops, detailed monitoring, and response readiness in case resistance is detected.

### THE CENTER FOR FOOD SAFETY

A project of the International Center for Technology Assessment,  
310 D Street NE,  
Washington, DC 20002.  
202/547-9359, www.icta.org.

The front-line group fighting to maintain standards for organic food. They oversee the Washington folks. They've sued to force labeling of genetically modified

foods and force safety tests; have sued to have an environmental impact statement on *Bt* plants; and will sue a lot more. Their strategy: enforce good rules; change the bad ones.

### ALLIANCE FOR BIO-INTEGRITY

310 D Street NE,  
Washington, DC 20002.  
info@bio-integrity.org,  
www.bio-integrity.org.

Best source about the conflict between religious principles and genetically-engineered foods. Spearheading the most important lawsuit on "Franken-foods" and food safety.

## Biotech Hobbyist Magazine

www.irational.org/biotech/

When I was a kid, back in the seventies, I was enchanted by computer hobbyist magazines. The very idea of building your own computer was too cool for words. Those forbidding boxes of blinking lights would no longer be found only at NASA and secret-agent headquarters—they were coming to your very own bedroom. No one in the "real" world of computers knew what hit them until it was too late. It turns out that the hobbyist kids, like Bill Gates and Steve Jobs, took over.

If you are interested in what lies ahead in biotech, you might want to tune your browser to the online Biotech Hobbyist Magazine. The first issue has a project on culturing your

own skin...preferably foreskin skin. (Alas, the next revolution might place Jews like me at a disadvantage.) The second issue promises to teach hobbyists how to make their skin culture glow by splicing in some octopus genes. Talk about motivation! I've always wanted to be a cephalopod!

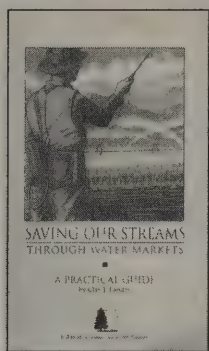
Hobbyists are the front line of the open-technology movement. As with computers, it might turn out that grassroots biotech brings out more humanity, humor, and, most importantly, ethical practice than the top-down approach. Just as open software systems like Linux perform better and are better understood and cheaper than top-down alternatives, I wonder if open biotech might not someday be

safer, better understood, more ethical, and cheaper than what is envisioned by pharmaceutical companies.

Biotech isn't like nuclear tech—many of the tools and materials are cheap and readily available already, or could easily become so. Even so, everything biotechnical is patented up the wazoo—including, I suppose, the genes for the human wazoo. Biotech Hobbyist Magazine "disclaims any liability for the infringement of such patents."

This 'zine is filled with broken links, empty databases, and typos. It hasn't yet published its second issue. In other words, it is showing serious signs of being the Next Big Thing. —Jaron Lanier

## UPDATES



### SAVING OUR STREAMS THROUGH WATER MARKETS A Practical Guide

Clay J. Landry. 1998; 61 pp. \$5 postpaid. Political Economy Research Center, 502 South 19th Avenue, Suite 211, Bozeman, MT 59718. 406/586-7555, perc@perc.org, www.perc.org.

A truly remarkable and essential work on how to use market mechanisms to put water back in creeks, streams, and rivers. I mean *essential*. How to get the biggest ecological bang for your buck; negotiating the fair market value of water for in-stream flows; when to lease, purchase, or donate, and how each of the western states differs in its details. Great examples and clear writing. We had no idea that such a practical pamphlet would follow so quickly after our story on the Oregon Water Trust (*Whole Earth* No. 94). Once again, the future is now. —PW

### FISH TREE WATER BLUES

Various artists. 1999; \$17.98 (CD). Bullseye Blues & Jazz.

Indulge your blues hunger while helping Earthjustice Legal Defense Fund (formerly Sierra Club Legal Defense Fund; *MWEC*, p. 78) provide legal aid to 130 groups working to protect Pacific Northwest waterways and wildlife. If the cause isn't enough incentive, the CD stands just fine on its own: tracks by Ruth Brown, Robert Cray, John Lee Hooker, John Hammond, RatDog, Tracy Nelson, and ten others. I'd get it just to hear Etta James taking "Take It to the Limit" to a place no Eagle has flown. —MKS

### CUSTODIANS OF THE COMMONS Pastoral Land Tenure in East & West Africa

Charles R. Lane, ed. 1998; 238 pp. £15. Earthscan, 120 Pentonville Road, London N1 9JN, England, www.earthscan.co.uk. In US \$30 from Island Press.

More than 25 million Africans live as pastoralists, in spite of privatization, fencing of

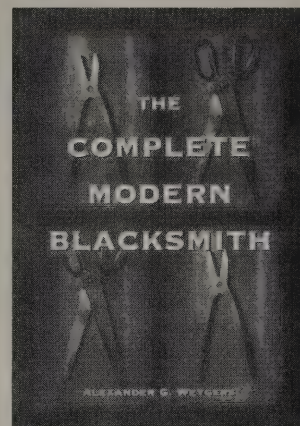
common lands, and government schemes to force them into settlements (see *Whole Earth* No. 94). This UN Research Institute for Social Development volume argues that pastoralism makes better sense, economically, socially, and environmentally, than those alternatives. Case studies from seven African nations lay out policy issues, conflicts (and efforts at resolution), environmental implications, and recommendations for saving this endangered way of life.

—MKS

### principles in use of hammer & body motions, & body stance



"natural"? And what, as the title asks, *is* natural any more? The questions parallel those around response to forest fire, but address natural communities whose histories and processes are far less understood. Sapp doesn't answer the questions, but he poses them—and introduces those who are grappling with them—with clarity and urgency. —MKS



### THE COMPLETE MODERN BLACKSMITH

Alexander G. Weygers. 1997; 300 pp. \$19.95. Ten Speed Press.

Back in the early 1970s, Alexander Weygers wrote three peerless books on the art of blacksmithing [see the *Next Whole Earth Catalog*, 1980]. His house near Salinas, California was filled with an array of iron artifacts and art. The helllike studio out back was filled with smoke, sparks, and scrap steel—and often with lucky students, who learned the meaning of "mastery" and "craft" along with techniques for forming hot metal. Now you can get all three books (long out of print) under one cover, terrific illustrations and all. He's still as good as teachers get. —J. Baldwin

### 1999 CONSERVATION DIRECTORY A Guide to Worldwide Environmental Organizations

Rue E. Gordon, ed. 44th ed. 1999; 546 pp. \$61. Lyons Press.

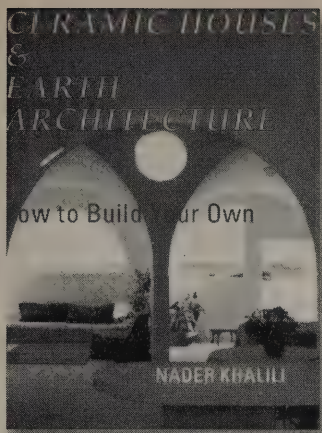
When we first listed conservation organizations in the *Whole Earth Catalog*, we found seven. This latest edition of the National Wildlife Federation's *Conservation Directory* includes 3,000 US and Canadian NGOs, government agencies, educational institutions, and information resources, cross-indexed by keywords, staff names, and geographic areas. When you're grabbed by a passion to do something on behalf of the wild world, start looking here for your allies. —MKS

### WHAT IS NATURAL? Coral Reef Crisis

Jan Sapp. 1999; 275 pp. \$30. Oxford University Press.

(See coral reefs, *Whole Earth* No. 93.) At least twice since the 1960s, great herds of crown-of-thorns starfish have infested coral reef communities around the world, wreaking havoc while igniting a fierce controversy among scientists and environmentalists: Are the infestations a normal phase in the coral reef life cycle? Are they caused—or seriously exacerbated—by human factors (from overfishing to ocean pollution)? Should humans intervene, whether or not infestations are





## CERAMIC HOUSES & EARTH ARCHITECTURE

### How to Build Your Own

Nader Khalili. 1986; 233 pp. \$19.95 (\$24.95 postpaid). Cal-Earth Press. 10376 Shangri La Avenue, Hesperia, CA 92345. 760/244-2201, www.calearth.org.

This recently reprinted book arrived too late for our earth-building reviews in *Whole Earth* No. 96. Nader Khalili believes that anyone in the world should be able to build a house for his or her own family, using the most fundamental elements: earth, water, air, and fire. His ceramic houses are adobe-block constructions fired from the inside out—the buildings become their own kilns. The book contains structural principles, step-by-step instructions, and illustrations of earth architecture around the world, interspersed with Rumi's mystical poetry, which is Khalili's inspiration. —MKS

## SILKWORM COCOON DISCOVERY KIT

\$15.95 (shipping varies by quantity ordered).

Sericulum, PO Box 1854,

Sebastopol, CA 95473. 707/824-0703, silkmoth@pacbell.net, www.sericulum.com.

Intended mostly for classrooms, the kit includes thirty-two non-living silk cocoons for hands-on examination; a study guide helps spin the connection between silk moth and silk scarf. (See "Fibers," *Whole Earth* No. 90.) —MKS

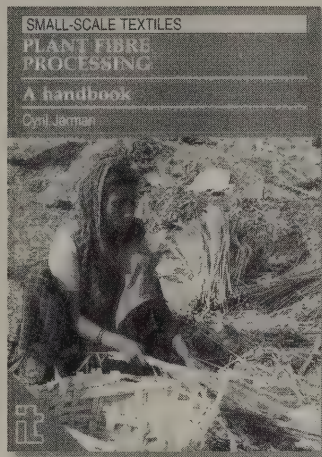
## PLANT FIBRE PROCESSING

### A Handbook

Cyril Jarman. 1998; 53 pp. £6.95 (£8 postpaid). IT Publications Ltd. 103-105 Southampton Road, London WC1B 4HH UK. www.oneworld.org/itdg/shop.html. In US \$13.95 (\$18.95 postpaid) from Stylus

Publishing, PO Box 605, Herndon, VA 20172. 800/232-0223, Styluspub@aol.com.

This handbook presents no-nonsense introductory information for those working to help the rural poor in developing countries generate income. Almost every tropical and subtropical vegetable fiber (hemp to abaca) for rope, twine, and baskets. Learn about extraction, grading, and processing. Includes elegant drawings and access information for equipment suppliers in the Philippines, India, Colombia, Northern Ireland, and the UK, and ag-research organizations in a dozen countries. —PW



## NEWS

### BIKESTATION

Palo Alto, California launched the nation's second commuter Bikestation in April (see "Commons on Wheels," *Whole Earth* No. 94). It provides secure valet bike parking near the Caltrain commuter train station, and offers a changing area, bike repair and rental, and a program allowing companies to reserve bicycles for employees.

### PERSISTENT ORGANIC POLLUTANTS

(See *Whole Earth* No. 90.) World Wildlife Fund has released a briefing paper, "Persistent Organic Pollutants: Hand-Me-Down Poisons that Threaten Wildlife," as part of its Global Toxics Initiative. See www.worldwildlife.org/toxics.

In April, Health Care without Harm ran a full-page letter in the *New York Times*, signed by more than 100 physicians concerned with dioxin and mercury in medical waste. The signatories called on colleagues to "take responsibility for decreasing environmental toxicants from medical sources, ban purchase of new mercury thermometers...except when their use is mandated by specific circumstances... and encourage the phaseout of PVC plastics and mercury products in health care."

In March, an editorial in *Chemical Engineering News*, "the newsmagazine of the chemical world," concluded that: "Balancing the slight harm to the vinyl chloride industry and the availability of cost-effective alternatives, against studies—albeit ambiguous—that show potentially harmful health effects to humans, dictates a prudent switch to non-PVC...alternatives."

Health Care without Harm also reported that Baxter International, one of the two largest makers of IV products, had announced that it would provide a timetable for developing alternatives to PVC during the next decade. The announcement came in response to concerns from shareholders, including the largest health-care union in North America and two religious orders. The shareholders said they will meet with Baxter to assure that the proposed timetable "wouldn't be from here to eternity."

### FROGWEB

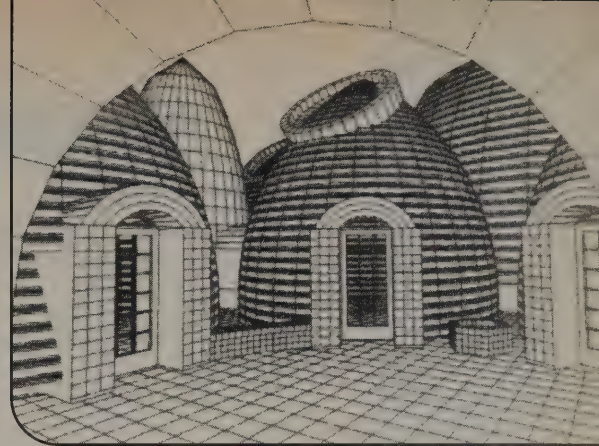
(See *Whole Earth* No. 90.) The National Biological Information Infrastructure has set up a Web page, www.frogweb.gov, to track developments and research in malformation and decline in amphibious populations. Factors under investigation include persistent organic pollutants, but also habitat destruction, UV-B radiation, parasites, and predators. The site also includes "Adopt a Pond," "Frog Fun," and links to other amphibians.

### COD CRISIS

(See *Whole Earth* No. 94.) The New England Fishery Management Council voted to adopt a series of rolling fishery closures between Cape Cod and Canada, reducing fishing by 80 percent during the 1999 season, in an effort to salvage the nearly exhausted cod fishery.

### CORAL REEF NAVIGATION AIDS

(See *Whole Earth* No. 93.) The National Oceanic and Atmospheric Administration and the US Coast Guard have installed eight radar transponder beacons between Miami and the Dry Tortugas to help mariners steer clear of coral reefs. The beacons were funded through a restoration agreement with the owners of a container ship that ran aground off the lower Florida Keys in 1997.



Hesperia Lake Museum and Nature Center. Architect, Nader Khalili (author of *Ceramic Houses & Earth Architecture*).

## GOSSIP

It's the third spring since our rebirth as *Whole Earth* magazine; wisteria drooping glamorously from the native oak, warblers gone upland to court and mate and lay some eggs. Stewart Brand and his wife Ryan called at midnight on their cell phone to tell me that they were standing in the parking lot near their houseboat and a bird was singing madly in a tree. Every time they put their flashlight on it, it shut up and couldn't be found. They held the cell phone up to the foliage. It was a northern mockingbird—not quite as innovative as the one near boardmember Diana Hadley's home that perfectly mimics emergency vehicles, but a strong enough singer to send its song to me by satellite.

We note the passing of another excellent magazine, *GNOSIS: A Journal of Western Inner Traditions* (mysteries, esoteric traditions, and alternative spirituality). Jay Kinney, a previous *CoEvolution Quarterly* and *Whole Earth Review* editor, had been publisher of *GNOSIS* for fourteen years; fifty-one issues. His letter explaining the magazine's demise sounded all too ominous: "The last four years have seen two expensive office moves, a doubling of rent, two key distributors going bankrupt, several traumatic staff departures, one totaled car, and much more...if our dilemma were only financial, we'd probably struggle through and stagger on somehow. However, the worst result of all these traumas has been the psychic toll it has taken on our small staff..." I've rehearsed this same letter in my head *muchos tiempos* and hope I never have to write it. I do miss the dust and duff of sleeping outside (no vacation of more than three days in two years) and can't tell you how much overtime *Whole Earth's* staff puts in. *GNOSIS's* sale of thousands of its books, back issues, etc. hit our hearts (order back issues through summer from [www.gnosismagazine.com](http://www.gnosismagazine.com)). Most of our own library sits in metal containers looking for a home, a local private library rather than a garage sale.

We do have a wonderful stream of volunteer interns who help reduce some of our overtime and stress. Most recently, Liz Richardson joined us. She has worked in natural food co-ops and alternative kids' schools in Charlottesville, VA and San Francisco. She's a speedier and sharper proof-reader than yours truly. We'd like to hire all our great interns.

*Whole Earth's* famous offspring, the WELL (Whole Earth 'Lectronic Link) continues an amazing journey of survival. Started in 1985 by Stewart Brand and technologist Larry Brilliant, it has been described

as the world's most influential online community. In 1993, our umbrella foundation (Point) sold its half-share of the WELL for \$750,000, enough to keep the magazine afloat until 1996. Now the WELL has been bought by Salon.com, considered one of the Internet's leading original-content and community sites (news, technology, books, parenting, sex, travel, health...sound familiar to old *Whole Earth Catalogers*?). The partnership began in 1998 when Salon.com hired Cliff Figallo (early WELL director and contributor to *Whole Earth*) as community-development director. Whew! Fifteen years of gossip limelighted in one chip of a paragraph. Salon ([www.salon.com](http://www.salon.com)) averages 1.2 million visitors and thirteen million page views per month. The WELL ([www.well.com](http://www.well.com)) hosts 200-plus discussion areas. *Whole Earth's* own Web page ([www.wholeearthmag.com](http://www.wholeearthmag.com)) was "Web Page of the Week" in London.

David Rothenberg, who wrote "Sounding Alive" for *Whole Earth* No. 96, has a new baby. David's hopefully writing a sonata for infant wails plus bass clarinet. Gabriel himself, the lovely soprano-sax player Paul Winter, gathered some sweet folks at Slide Ranch on the nearby coast to discuss constructing a new mythology for the next century. He has kindly offered to do a benefit concert for *Whole Earth*. Jaron Lanier had to pass on writing an article for this issue (but see his essay, page 111) because he's giving a concert in New York with shakuhachi flute and synthesizers. Does all this music-making add up to a spring-time trend, a conspiracy of the birds? —PW

## LETTERS

*Whole Earth* is a conversation. Compliments, cavils, and corrections are welcome. Letters and email may be (reluctantly) edited for space.

## NEWS FROM LYSSA

Hello to everyone there! I had wanted to email you, but as Banarasi Internet access is as slow and unpredictable as everything else in Banaras, I decided to write you a postcard. Even though the Internet wallahs ply me with chai while I wait for the electricity to return or for the server to work again, and despite the fact that the post is even less reliable than Banarasi computers, I'm living off line for now. Most people I know here are not as impressed by the arrival of the Internet as by new telephone lines and the paving of roads.

I landed in Calcutta, where images of the sinking *Titanic* have been painted all over the backs of municipal buses, which sputter out the heavy, dark exhaust that's choking the city. Apparently, naming buses, rickshaws, and even boats after the *Titanic* doesn't

New intern  
Liz Richardson

Gnosis

God & Evil

strike people as a particularly bad idea. In Banaras, I'm living with the same large, joint family as before. My landlady and her husband rent out three of their four rooms. They've managed to stuff many of the trappings of the Indian middle class—a color TV with remote control, an unused refrigerator, posters of white babies, an air cooler, and a brand-new telephone—into the remaining room, where they live with their two sons. It's great to be back here. I've been studying Hindi and drinking endless cups of chai with old friends. My professor's health is somewhat improved; the weather, for now, is perfect; and I have yet to be sick. I hope all of you are well and that you're enjoying the much-deserved break between issues.

Fondly, Lyssa Mudd  
Banaras, India

[Ed: Lyssa, former Assistant Editor, is now a roving Contributing Editor.]

### WHOLE EARTH FRIENDS, ECUADOR

"Modern Landscape Ecology"—with its great cover art—just reached our remote farm in northwest Ecuador. It is beautiful, and like a horse released into new pasture I have browsed it over, then meandered on to favorite areas to savour them.

We've subscribed, on and off, since *CQ's* [*CoEvolution Quarterly's*] second issue. Often, you inspired us, bringing timely resources to our attention. At times the focus was too narrowly urban-hip to be relevant to our life here. I'm glad now that the cutting edge of thought is both broader and sharper than ever. It's the best incarnation yet, a dream manifest: the whole Earth re-integrated and in dynamic harmony, its beings and phenomena set like jewels in a modern landscape whose diversity shelters positive transformative potential in all its raging glory. Many thanks.

Be well, and fruitful.  
Meredith Jan Foyle  
Rio Guaycuyacu, Ecuador

### SINGAPORE ON BOARD

I'm a recent convert to your magazine. I think my *Whole Earth* history

only dates four issues back. I noticed some fellow readers, especially those who had followed through the years, are a little disgruntled about how the magazine has changed as compared to the past. For me, though, you guys are doing one thing right.

When I watch the news or read current-affairs periodicals, I often find myself in disbelief of the state of human affairs and politics. It's disturbing to see how human atrocities are committed and seemingly on the rise. But *Whole Earth* gives me that little hope that there are people who are doing right. "The White Dog Cafe" [Judy Wicks and Kevin von Klause, *Whole Earth*, No. 96] is an inspiring example. Craig Holdrege ["The Peppered Moth Illusion," same issue] also instills some sense of faith that teachers are not just passing down the dogmatic myths of sciences.

Thank you, for restoring in me some sense of faith in humankind.

Joyce Goh  
Singapore

### IDEAS DESIGNED TO RESCUE THE WORLD

When a mother who has been exposed to PCBs and dioxin nurses a child there's a risk she might pass dangerous amounts of the harmful substances to the infant, and the first infant to nurse is at an especially high risk. First-born dolphin calves often die because the mother has accumulated toxins within her body. Yet lactation reportedly can be induced by the administration of prolactin. So might the induction of lactation be a useful, reliable, and safe way of ridding the body of toxins? Women who intend to become mothers in the future could volunteer for that treatment so as to make the nursing safer for their babies....Men would experience some temporary side effects which might prove disconcertingly "unmasculine," but once the administration of prolactin stopped those side effects would disappear.

I work as a master-level psychologist on an adolescent ward at a state hospital, and have no scientific background to determine if these ideas are practical.

But I certainly hope they are!

Dan Gollub  
Larned, Kansas

### OLD FRIENDS IN KERIKERI

We have donated our complete set of WER [*Whole Earth Review*] and CQ [*CoEvolution Quarterly*] to the University of Auckland's Architecture Library. Just found how valuable the old back issues became!

Once visited you at Sausalito, CA and trust you have found a new home that suits. San Rafael is nearby. May be in USA in June using Amtrak. Stay well.

Robert Stowell  
Kerikeri, New Zealand

### ARCHAEOLOGICAL FIND: YOK YOK

Dear Cassius,

Still working on the Y zero K problem? This change from B.C. to A.D. is giving us headaches. Having been working happily downwards forever, now we have to start thinking upwards.

I spoke to Caesar. He was livid that Julius hadn't done something about it when constructing the calendar. We called in the astrologers, but they simply said that continuing downwards—using "minus B.C."—won't work. As usual, they charged a fortune. As for myself, I just can't see the sand in the hourglass flowing upwards.

We have heard that, in the east, three wiser guys are working on our YoK problem, but won't arrive til it's over. Maybe, as rumored, the world will cease at the moment of B.C./A.D. transition. I will send you a parchment if anything further develops.

Plutonium

### CONTRIBUTORS' GUIDELINES

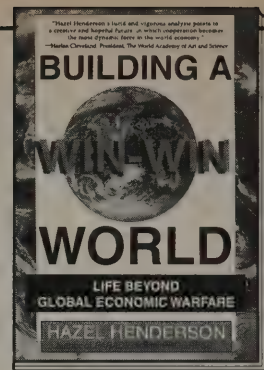
For guidelines, see our Web site, [www.wholeearthmag.com/faq.html](http://www.wholeearthmag.com/faq.html); email [editor@wholeearthmag.com](mailto:editor@wholeearthmag.com); write to *Whole Earth*, 1408 Mission Avenue, San Rafael, CA 94901; or fax a request to 415/256-2808.

# NOW IN PAPERBACK

BOOK-OF-THE-MONTH CHOICE OF  
THE INTERNATIONAL MANAGEMENT INSTITUTE

## HAZEL HENDERSON

Author of *Paradigms in Progress*, *Politics of the Solar Age*, and *Creating Alternative Futures*, on:



- The new “attention economy”
- Taming the global casino
- Funding sustainable development
- Beyond GNP to quality-of-life indicators
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#### Corrections

Phantom characters appeared (or disappeared) in some access information in Issue No. 96. The correct zip code for Ceres Press (*The Tofu Tollbooth*, p. 59) is 12498. The correct URL for the Global Ideas Bank (p. 58) is [www.globalideasbank.org](http://www.globalideasbank.org). The fax number for Lyons Press (*The Search for the Giant Squid*, p. 71) is 212/929-1836. The fax number for Ronin Publishing (*Marijuana Law*, p. 75) is 510/548-7326. The email address for information about the Hannover Principles (*Whole Earth* No. 95, p. 30) is [hp@mbdc.com](mailto:hp@mbdc.com). We regret the errors.

The person we first contacted at Rainbow Light Nutritional System volunteered edible bentonite as one of their products (*Whole Earth* No. 96, p. 43); the company has notified us that they do not sell edible clay.

# Announcing the Margaret Mead 2001 Awards recognizing community creativity for a new century

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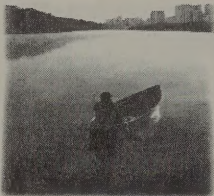
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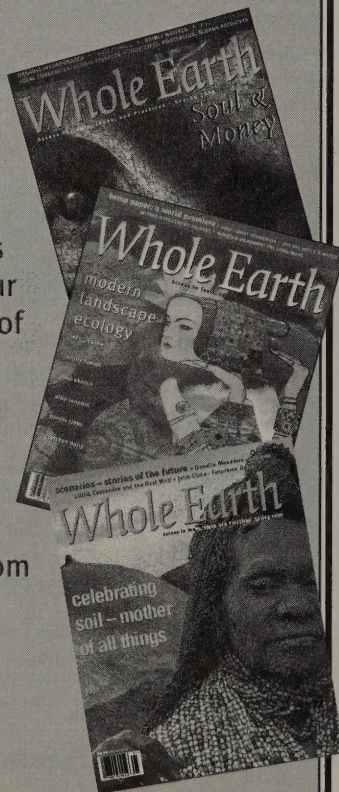
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